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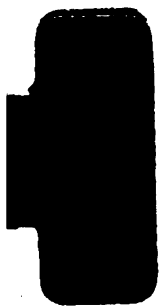
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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Surgical Intervention in some Diseases of the Stomach.*^a By R. CHARLES B. MAUNSELL, M.B., &c. (Univ. Dubl.), F.R.C.S.I.; Surgeon to Mercer's Hospital; University Examiner in Surgery, University of Dublin; President, Dublin University Biological Association; Fellow and Member of Surgical Council, R.A.M.I.

THE subject which I have chosen for my Address, although practically unknown some ten years ago, has already grown to such dimensions that it would be impossible for me to treat of it in an exhaustive manner, so I must crave your forgiveness for the fragmentary style of what I am about to say.

My intention is simply to indicate some of the pathological conditions of the stomach which might be ameliorated or abolished by surgical intervention, briefly reasoning from well-known physiological and mechanical premisses, where such are available, or perchance still using the old and hard-dying method of empiricism.

^aThe Presidential Address delivered at the Opening Meeting of the Twenty-Ninth Session of the Dublin University Biological Association, held on Thursday, November 19, 1903. [For the further Proceedings of this Meeting see page 54, *infra*.]

2 *Surgical Intervention in some Diseases of the Stomach.*

If from our premisses the conclusion is drawn that surgical intervention is advisable, it then remains for us to consider what class of operation should be done, leaving the innumerable modifications and technicalities to the reasoning powers or experience of each individual surgeon, merely dealing with principles which so often become obscured in a multitude of detail.

Gastritis naturally forms a starting point for our discussion, more especially as almost all operators of large experience have recorded cases of distinct amelioration, or even cure, of this common and distressing complaint; but we must define which forms of gastritis may be thus benefited, and seek for physiological reasons.

We may at once dismiss all acute and the majority of chronic cases, unless from their frequent recurrence, severity of gastralgia, or other symptoms, there are grounds for suspecting ulcer, perigastric adhesions, or cicatricial deformity of the stomach, when they would be treated for these conditions as recommended later on.

In ordinary chronic gastritis, or so-called chronic gastric catarrh, the hydrochloric acid of the gastric juice is greatly diminished, or in advanced cases is entirely absent; at the same time the pepsin diminishes, but by slower stages.

In most cases the stomach retains its normal size, or may even be contracted; in such, although medicine often can do little, surgery holds forth no hope.

There are many cases in which the stomach walls stretch from atony, or where more or less pronounced kinking of the pylorus or duodenum, due to gastropotosis, movable right kidney, or general visceroptosis, adds an element of obstruction leading to dilatation. It is amongst this group that we find cases which surgery can benefit.

Mere gastropotosis or visceroptosis is no indication for operation, neither is mere increase in size of the stomach. Many prolapsed and many comparatively huge stomachs functionate fairly well. Inability of the stomach to empty itself completely is the only direct indication we should recognise.

It is a matter of common knowledge that the stomach should be completely empty of all food within three to four

hours after a light meal, and six to seven hours after a heavy mixed meal, so if the stomach tube of Kussmaul, or the stomach bucket of Einhorn, reveal remnants of food later than this, we may consider retention present; but it is better to make it a working rule, that following an ordinary mixed meal over night, the stomach should be completely empty in the morning.

We must not expect to find large lumps of food in the material drawn off, for when there is no actual diminution of the calibre of the pyloric orifice, large boluses are easily gripped and propelled by the stomach, and the only tell-tale signs may be undigested starch granules, or the presence of peptones.

If medical treatment fails after a thorough trial, surgery can promise relief in many cases by procuring drainage through a well-planned gastro-enterostomy opening. I intentionally make use of the word relief, not cure, as the careful investigations of Fantino¹ on Carle's cases, and of C. S. Fisher² on Weir's cases, not to mention many other observations, have shown that gastro-enterostomy does not improve the secretion of gastric juice, or always decrease the dilatation; but no one denies that the subjective symptoms almost, if not entirely, disappear.

There is another class of dyspepsia in which surgery has done more, not only abolishing subjective symptoms, but actually restoring the normal secretory power to the stomach, as proved by Fantino and others, although Fisher quotes some cases to the contrary. I refer to the group presenting excessive acidity or hyperchlorhydria. Whether these cases are inflammatory in origin is debated by some, but it is hard to believe that microbes are not at the bottom of the mischief.

Reichmann,³ Ewald,⁴ Einhorn,⁵ and others, state that hyperacidity is present in about half the number of dyspeptic cases, but in most people it either causes no special disability or is amenable to careful medical treatment. In some extremely obstinate and distressing cases surgeons now intervene, and there appear to be three chief indications for this intervention:—

1. Obstinate dyspeptic symptoms.

4 *Surgical Intervention in some Diseases of the Stomach.*

2. The occasional extreme difficulty of telling whether ulceration is present or not.

3. The rare condition, described by Reichmann⁶, in which continuous secretion of hyperacid juice is present, accompanied by slight dilatation without food retention, or with only slight traces of starch and peptones.

Pawlow⁷ has proved that, when at rest, the stomach should contain no gastric juice, or at most a few c.c.'s. He has also demonstrated that a simple mechanical stimulus does not call forth a flow, so we may rest satisfied that the passage of a stomach tube or bucket will not account for the fluid obtained, more especially as the juice would not begin to flow for some minutes after the application of any stimulus.

If all medical means have been tried without success, prolonged or permanent drainage should be instituted. This may be secured either by pyloroplasty or gastro-enterostomy.

An appeal to physiology supplies a good reason for this seeming empirical line of treatment.

Pawlow⁸ has shown that when an acid is applied to the duodenal mucous membrane a spasm of the pylorus is started, which does not relax until the acid has been neutralised by the biliary and pancreatic secretions. This reflex mechanism normally regulates the departure of chyme from the stomach, but we can easily understand that where there is an excessive amount and an excessive acidity of the gastric juice the pyloric spasm would be more frequent and more prolonged, forming an actual obstruction.

Pyloroplasty would appear to be an ideal operation, as it prevents spasm by severing the sphincter; but experience has shown that where more than the most moderate dilatation is present, pyloroplasty fails to drain adequately.

W. J. Mayo, of Minnesota⁹, has recently published nineteen cases of pyloroplasty for dilated stomach; six had subsequently to be supplemented by gastro-enterostomy before satisfactory drainage could be secured.

Mayo, in the same communication, states that gastro-enterostomy in cases with a non-strictured pylorus is often a failure, as the opening tends to close in a few months—he records that eight out of twenty-eight cases in his list required

secondary operations, and quotes Ochsner and Cordier as being of the same opinion.

Reasoning from analogy to urethral, intestinal and other fistulæ would tend to support this view, but, on the other hand, we have Mayo Robson ¹⁰ and other experienced operators who are convinced that if a sufficiently patent opening is secured it will not subsequently close. At any rate, it does not appear to be a matter of supreme importance, as it must only occur in a very few cases, and the majority of these will probably have been very considerably improved by the functional rest during the four to six months previous to closure of the abnormal opening.

I should have mentioned before that the opinion is growing stronger every day that the pyogenic and other organisms have a great deal to do with the causation or aggravation of inflammatory gastric diseases, and we should always remember that dental or posterior nasal septic foci may be the cause of our inability to relieve without operation, as the most aseptic foods or the best of medicines are powerless when swallowed with a constant admixture of pus.

We can pass by an easy gradation from gastritis to gastric ulceration; indeed, clinically, it is often impossible to distinguish between them, and in a large number of the class which we have just considered gastric ulceration is present without sufficiently obvious signs to lead to its accurate diagnosis.

We all know the lengthy list of supposed causes and supposed varieties of gastric ulcer, but perhaps it would be an advance if we simplify our conception of this complaint.

It is now granted that ulcers occurring on the limbs are due either to the breaking down of one of the so-called infective granulomata or else to septic infection. All the blood and lymph vascular or nervous derangements are looked upon merely as predisponents or aggravators additional to the ordinary mechanical and chemical irritants. We no longer describe numerous kinds of simple ulcer, but numerous conditions from the most simple and painless abrasion to the most painful or callous sore.

It is also granted that ulcerations of the intestines are all microbial in origin.

Analogy would also lead us to look upon gastric ulcers in

6 *Surgical Intervention in some Diseases of the Stomach.*

the same light, but apart from this there are a few facts which tend to strengthen this view.

1. Many clinical observers have noticed the septic condition of the mouth in patients suffering from gastric ulcer, and my personal experience has been that in no case of gastric ulceration are the teeth and gums free from a distinctly septic focus. The fact that ulceration is almost entirely confined to the poorer classes amongst females adds probability to this view, since the better classes, especially the females, pay more attention to their teeth, and can afford better artificial arrangements.

2. In many stomachs the mucous membrane contains a considerable amount of lymphoid tissue, which would be prone to retain septic organisms, and lead to suppuration and ulceration.

3. Ulcers affect stomachs which have already suffered or contemporaneously suffer from chronic gastritis with infiltration of the mucous membrane by inflammatory granulation tissue, either in patches or universally.

4. The ulcers are commonly multiple, and very frequently occur on opposed surfaces, evidently due to contact infection.

No doubt there are many blood and lymph vascular and nervous predisponents which determine the acuteness or chronicity, and the constant presence of chemical irritants, such as hydrochloric acid and pepsin, makes it extremely hard for healing to take place.

The deleterious effect of hydrochloric acid has been proved by experiment,¹¹ and also by the interesting cases which have been recorded¹² where ulceration occurred in the jejunum, following on gastro-enterostomy in the presence of marked hyperchlorhydria. This has led Neumann¹³ to suggest the advisableness of performing the operation of temporary jejunostomy until the acidity of the gastric juice be reduced.

In practically all cases of gastric ulceration the condition of hyperchlorhydria is present, at least in those cases which present symptoms sufficient for clinical diagnosis by the average practitioner. Whether this condition is primary or secondary may be debated, but I am inclined to think that gastritis of septic origin causes hyperchlorhydria. The hyper-

chlorhydria so aggravates the condition that ulceration takes place; the irritation is thus further increased, a vicious circle is established and maintained by spasmodic closure of the pylorus, due to the excess of acid acting upon the duodenum.

Pawlow¹⁴ mentions a very instructive case of a dog with gastric pouch, the mucous membrane of which became inflamed, a condition of hyperchlorhydria supervened, with perforation of a round ulcer.

In a minority of cases ulceration occurs in stomachs which secrete subacid juice, or, as recorded by Einhorn,¹⁵ in complete achylia. These cases present few definite symptoms, and are usually diagnosticated during an operation, at autopsy, or by the supervention of some complication. It is not hard to understand the occurrence of ulceration in these stomachs, as the mucous membrane is in a very abnormal condition from chronic gastritis. In the great majority of cases of ulcer the stomach is more or less enlarged, probably on account of pyloric spasm. The enlargement will not be much in a downward direction, unless there is a condition of gastropnoia, but careful percussion in the nipple and axillary lines will demonstrate upward distension.

The treatment of gastric ulcer should be medical, but this treatment should be thorough, and we must remember that an attempt at treatment while the patient attends dispensary or consulting room must result in failure, if not serious accident.

Perhaps a few suggestions based upon physiological reasoning would not be out of place, as a like treatment might be of use during the process of wound repair after operation.

Rest in bed is absolutely essential. At first stop all food by mouth, feed and give water per rectum. Large doses of carbonate of bismuth and of bicarbonate of sodium may be given, as the bismuth has a soothing action upon the raw area, and the sodium salt not only helps to neutralise any gastric juice excited by appetite or irritation, but it has been experimentally proved¹⁶ that a solution of bicarbonate of sodium actually inhibits gastric secretion.

After four to six days small quantities of milk may be given by mouth. Milk is the best food, as it is digested chiefly by the intestines, the fat which it contains inhibiting gastric secretion,¹⁷ and acting as a distinct stimulant of the pan-

8 *Surgical Intervention in some Diseases of the Stomach.*

creatic flow.¹⁸ Meat extracts and soups excite gastric secretion, therefore should not be given too soon.

When solids are allowed, scraped meat and egg are better than bread, as they are more easily digested, and the secretion they excite is not as rich in ferments¹⁹ as in the case of bread, and their digestion, unlike starchy food, is not hindered by the presence of the hyperchlorhydria. In very cachectic patients much benefit has been found to follow the subcutaneous injection of sterilised olive oil.

No matter how severe the symptoms are, or how pronounced the cachexia, non-operative treatment should be carried out conscientiously if there are no dangerous or actual mechanical complications obvious, but if any case resists treatment, or recurs, operation is the rational and safest course for the sake of the patient's comfort, or even life.

At first sight it may seem rational for the surgical consultant to advise excision of the ulcer and suture of the resulting wound, but perhaps a few arguments which can be brought forward may point out a fallacy in this advice :—

1. It is not usually easy to locate the position of an ulcer at operation.

2. Ulcers are most commonly situated upon the posterior wall, and are hard to reach, more especially if the base is adherent to the pancreas, &c.

3. Ulcers are very frequently multiple.

4. Ulcers are very frequent in the pyloric antrum and at the pylorus, where excision would lead to narrowing unless combined with pyloroplasty, which is not always advisable or readily performed.

5. The cause of the ulceration is in no way mitigated by the procedure, and the trouble may recur at a future date.

The operation of pyloroplasty has many advocates, but there are at least two great objections to it :—

1. It has been found²⁰ that where active ulceration is present at the pylorus, contraction frequently follows upon a pyloroplasty, and further operation becomes necessary.

2. It is very hard clinically to differentiate gastric and duodenal ulceration, or perhaps both lesions may be present, and pyloroplasty could have no beneficial effect upon the duodenal lesion.

Gastro-enterostomy has been found at once the most useful and the safest operation when all things are considered. We may confidently recommend it to our patients when we consider that Mayo Robson¹ and other operators are able to show a mortality of less than 5 per cent. over a large number of cases, and several lists of from twenty to seventy consecutive cases with only a single death have been published in the journals during the present year.

A few thoughts as to the method of action of this procedure may be of interest. The opening being placed at the most dependent point, the gastric juice and other contents can freely enter the jejunum without passing through the pylorus. It has been found that they do not pass through much quicker² than through a normal pylorus; but there can be no spasm or retention as there is no strong sphincter present. Not only does the acid juice drain away freely, but the unavoidable reflux of duodenal contents into the stomach may have a beneficial effect by neutralising excessive acidity.

At first this reflux was dreaded by operators, but it is now known to be a constant phenomenon in gastro-enterostomy, and of no grave import unless due to some actual obstruction of the jejunum at or below the artificial opening.

Rest is thus obtained, the pylorus, no longer irritated by constant reflexes from the duodenum, recovers itself, gradually reassumes its normal function, and shares with the abnormal opening the duty of emptying the viscus, and in a few cases may assume full control.

Time forbids that I should do more than mention many of the important and far-reaching complications and sequels of ulceration, such as distortion, dilatation, or hindered movements due to perigastric adhesions, which can be relieved by gastrolisis, with or without gastro-enterostomy, as each case requires; stenosis of the pylorus from cicatrices, which may be cured by pyloroplasty, or, better, by gastro-enterostomy; "hour-glass" and trilocular stomach, which require gastroplasty, &c.; perigastric or subphrenic abscess demanding incision and drainage; and we will pass to consider a few important points in connection with the serious complications—perforation and hæmorrhage.

The subject of gastric perforation is one on which I have

10 *Surgical Intervention in some Diseases of the Stomach.*

written²³ on two previous occasions, giving my own opinions and a digest from the literature on the subject. There is little new in the literature since my last paper; but as my own experience has been strengthened by two more successful cases, perhaps I may again state my conclusions, more especially as seven cases is a fairly large number for any operator to have treated.

Of the seven cases, three were males and four were females, two women and one man died, two women and two men recovered, and are still alive and well. The four cases which recovered were consecutive and subsequent to the other three. In six cases the soiling of the peritoneum was general, and accompanied by distinct general peritonitis; in one case the extravasation was local and easily treated.

There are a few points I feel constrained to refer to on every possible occasion: these are not so much aids to diagnosis as beacons to mark pitfalls which beset the path of those who read and trust many of the current text-books:—

1. Men and women of all ages are liable to perforation of a gastric ulcer.

2. The history may, but very often does not, disclose previous ulceration.

3. Shock is a variable sign, and tends to pass off to a great extent within a few hours. Twelve to twenty-four hours after perforation the patient feels much better, but examination reveals a rigid abdomen and lack of proper abdominal respiratory movements.

4. The temperature in the vast majority of cases is either normal or sub-normal during the first twenty-four hours.

5. The pulse rate in some women is frequent, in some infrequent; in the majority of men it is infrequent, ranging between sixty and ninety, unless the case has been left so long as to practically ensure failure from any form of treatment.

6. The character of the pulse is not hard and "wiry," except in some long-neglected cases.

7. It is in most cases impossible to clearly demonstrate fluid in the flanks by percussion.

8. The "stomach-note" is still present, or is even exaggerated since perforation leads to paralytic distension of the stomach with gas, not to collapse of that viscus.

9. The absence or presence of liver dullness is too uncertain a guide to be of much assistance.

10. The tongue, as far as my experience goes, is always moist and white, or slightly yellow, not dry, brown, and cracked, until after the lapse of many hours. This point I consider of very great importance, as in at least two of the cases seen by me and by my colleague, Dr. Lumsden, the absence of dry, brown tongue, taken in conjunction with an infrequent pulse, had been considered by previous medical attendants sufficient to negative perforation, thus leading to unfortunate delay, and in one case ultimate death.

Many writers copy from one another vivid and heart-stirring word-pictures of perforative peritonitis easily remembered by the student, but only destined to lead him astray when he is launched into actual practice.

All modern surgeons and most physicians are agreed that if there is a reasonable probability that perforation has taken place the abdomen should be opened, as soon as arrangements can be made for the aseptic operation.

We must be very careful not to confuse expedition and hastiness or flurry. Cases which cannot wait an hour, or perhaps two, for adequate preparation, might as well be allowed to die in peace. Now-a-days operators are prepared at a few minutes' notice to bring every requisite to the patient's abode, but even so there is no objection from a practical point of view to bringing the patient to a hospital, where the environment and care are much better.

Once the patient is on the operation table there must be no loss of time. The whole, or almost the whole, secret of success rests on the rapidity and precision of the operator and his assistants.

Having opened the abdomen, the perforation should be closed by a double row of continuous suture and the peritoneum should be cleansed with gauze swabs and plenty of warm normal saline solution. The chief error is made in striving to do without free flushing, and in resting satisfied with mopping up the small amount of fluid seen immediately in the operation area, without making a rapid, but systematic, search through the whole cavity. I venture to state that there are very few cases of perforation in which the pelvis

12 *Surgical Intervention in some Diseases of the Stomach.*

is not full of fluid, and in which a hand passed above and behind the spleen on the left and above and behind the liver on the right, will not bring from these treacherous pockets sufficient morbid material to reward the operator for his search. To state the matter concisely—the unusual and doubtful thing should be to trust to limited mopping, and there should be very clear indications before thorough and systematic cleansing is pronounced unnecessary.

When there is much paralytic distension of the stomach and intestines, they should be incised and deflated before closing the abdomen. The practice of evisceration does not appear to be either necessary or expedient during the cleansing process.

There are a few points for further study and debate :—

1. When an ulcer has perforated at or near the pylorus should it simply be closed, or should a pyloroplasty or gastro-enterostomy be done immediately? I have myself done pyloroplasty on two occasions in these circumstances. The first case ended fatally five days after operation, the second recovered, but it is too recent to form an opinion as to the permanent cure of the tendency to ulceration.

The operation in both cases was difficult, as the pylorus was adherent, and I would in future favour gastro-enterostomy under like conditions.

2. Should gastro-enterostomy be performed in every case of perforation as a routine, if not directly contra-indicated by the collapsed condition of the patient? I take it for granted that if a strictured pylorus or other obvious deformity is found, the operator will treat it by some suitable procedure.

Hæmorrhage probably occurs in every case of gastric ulceration, but unless of fairly large amount it is either entirely digested or is passed unnoticed in the motions. The cases we are interested in are those where blood is either vomited or distinct melæna is present. In the first place we must remember that hæmatemesis may be only a symptom of purpura, scurvy, hæmophilia, &c., or one of nature's methods of relieving venous obstruction of cardiac or portal origin, or may be due to the rupture of an aneurysm, as occurred in a case of mine. The cases in which theoretically surgery might be useful, and in which practical

experience has proved it to be so, are cases due to acute, recurrent, or chronic ulceration, inflamed and eroded weeping patches, or in bleeding due to varicosity of the veins.

When called in consultation with reference to hæmatemesis or melæna what advice can we give ?

1. In all cases in which there is no history of previous ulceration, although the amount of blood lost may be a pint or more, it appears to be wiser not to operate.

2. If the bleeding should recur in some hours, and still be copious, the patient showing signs of continued loss of blood, operation should be considered.

3. If there is a history of previous ulceration, which has not been thoroughly treated, the same advice would apply ; but if the history reveal previous failure of non-operative treatment, operation should be very seriously considered.

4. If the history reveal recurring attacks of severe hæmorrhage operation should be considered imperative.

5. If in a first attack of acute hæmorrhage, or in recurring hæmorrhage of even a much smaller amount, structural changes in the stomach, such as pyloric stenosis, are clinically evident, or even strongly suspected, I would suggest that operation appears to be the only sensible line of treatment.

In those cases where it is not deemed necessary to operate, we may advise adrenalin chloride (Parke, Davis & Co.), 10 to 30 minims by mouth, to be repeated in four hours, or four of Burroughs, Wellcome & Co.'s tabloids of suprarenal gland broken up in water. If shock is great the hypodermic administration of 5 minims of sterilised adrenalin chloride acts both as a stimulant and hæmostatic, whilst the subcutaneous injection of 2 per cent. sterile gelatine solution, or intravenous infusion of normal saline, are both well-known and worthily trusted remedies in surgical practice.

The operative procedures advocated may be divided into four groups :—

1. Gastrotomy followed by the application of the actual cautery to the bleeding spot ; ligature or under-sewing of the ulcer or blood vessel ; invagination and ligature *en masse* of the ulcer, with supporting sutures applied on the serous aspect ; or excision of the ulcer with suture of the resulting wound.

2. Any of these proceedings followed by gastro-enterostomy.

14 *Surgical Intervention in some Diseases of the Stomach.*

3. When the ulcer is at or near the pylorus, excision combined with pyloroplasty, or where the pylorus is not adherent pylorectomy.

4. Anterior or posterior gastro-enterostomy without any special immediate treatment of the ulcer or other bleeding area.

A knowledge of recorded cases, and of experiences mentioned in various debates, shows that any of the procedures mentioned in the first group are very difficult to carry out, as it is often impossible to locate the ulcer or other bleeding spot. There may be more than one area at fault, and ligatures or sutures are liable to cut, &c. The worst feature, however, appears to be that nothing is done to treat the original cause of the trouble.

The combination mentioned under the second heading seems very sound advice in cases where the bleeding is actually taking place, and is copious. We feel more confidence when the bleeding has been directly checked and the gastro-enterostomy ensures rest, and a return to normal of the mucous membrane. It would be wise to make the exploratory gastrotomy wound in a position where it could be made use of for gastro-enterostomy.

The two procedures mentioned under the third heading do not seem to have a very wide field for application, and would not appeal to me but for the advocacy of some well-known and trusted surgeons.

Of late the opinion has been gaining ground that the procedure of the most universal application is gastro-enterostomy without any previous search for bleeding points, trusting altogether to the rest and contraction produced by the free drainage. Personally, I am inclined to advocate this in all cases where the bleeding is not actually taking place during the operation, or in cases where the collapse necessitates expedition. In no case of any description would I recommend a prolonged search or attempt at hæmostasis, but would proceed after a brief, though methodical, survey to complete the gastro-enterostomy.

¹ Fantino. *Archiv. für klin. Ch.* Band XVII. S. 1 and 2.

² Fisher. *Med. Rec.* Sept. 8, 1900.

³ Reichmann. *Berl. klin. Woch.* 1887. No. 12.

⁴ Ewald. "Diseases of the Stomach." New York. 1892.

- ⁵ Einhorn. "Diseases of the Stomach." London. 1903.
- ⁶ Reichmann. Berl. klin. Woch. 1882. No. 40.
- ⁷ Pawlow. "The Work of the Digestive Glands." P. 86. (Translated by W. H. Thompson.) London. 1902.
- ⁸ Pawlow. Loc. cit. P. 164.
- ⁹ Mayo Robson. Annals of Surgery. July, 1903. P. 30.
- ¹⁰ Mayo Robson. The Lancet. Feb. 28, 1903. P. 572.
- ¹¹ Ewald. Klin. der Verdauungsorgane. 1 Theil., 3 Aufl. P. 122.
- ¹² Braun and others. Quoted by Mayo Robson. The Lancet, loc. cit.
- ¹³ Neumann. Deutsche Zeit. für Ch. 1901.
- ¹⁴ Pawlow. Loc. cit. P. 171.
- ¹⁵ Einhorn. Loc. cit.
- ¹⁶ Pawlow. Loc. cit. Pp. 95 and 145.
- ¹⁷ Pawlow. Loc. cit. Pp. 33, 105 and 143.
- ¹⁸ Pawlow. Loc. cit. P. 105.
- ¹⁹ Pawlow. Loc. cit. P. 33.
- ²⁰ Robson and Moynihan. "Diseases of the Stomach, &c." London. 1901.
- ²¹ Mayo Robson. The Lancet. Loc. cit.
- ²² Fantino. Loc. cit. Also Fisher. Loc. cit.
- ²³ Maunsell. B. M. J., March 23, 1901; and Dubl. Jour. Med. Sc., May, 1903.

ART. II.—*A Short Note on the Treatment of Pulmonary Tuberculosis by Intratracheal Injections.** By T. GILLMAN MOORHEAD, M.D., D.P.H.; formerly Assistant Physician to Sir Patrick Dun's Hospital; Physician to the Royal City of Dublin Hospital, &c.

DURING the last few years numerous methods of treating pulmonary tuberculosis have been suggested by different writers, and in most cases some special remedy has been vaunted by its introducer as a specific for the disease, but has been found to fail completely in the hands of others. It is, therefore, I consider, the duty of anyone who has given a trial to any of the newer methods to report, from time to time, what success he has had.

Excluding specific treatment by the various tuberculins which are upon the market, the methods of treatment which are at present practised fall, naturally, under two headings—namely, those that aim at the indirect destruction of the bacilli by increasing the natural resistance of the body to their invasion, and those that aim at the destruction of the bacilli directly. Theoretically, the former method of treatment is, I think, preferable. Under this heading the treat-

* Paper read at the Dubl. Univ. Biological Association.

16 *Intratracheal Injections in Pulmonary Tuberculosis.*

ment which has so far met with the greatest amount of success is that which consists essentially in open air and abundant feeding. It is, however, unfortunately, a treatment which is almost impossible to carry out alone with much satisfaction among those that attend the out-patient departments of our hospitals, and as almost all the other remedies which have the same object in view have proved failures, it is necessary in dealing with such patients to combine constitutional remedies with one of those modes of treatment which fall under the second heading. If this is not done there is danger of our treatment becoming merely symptomatic.

The treatment which I have adopted for the last twelve months at Sir Patrick Dun's Hospital is of the second variety. It is that which was first elaborated by Colin Campbell, of Southport, and which consists in the direct introduction into the lungs of various antiseptics. During the last four years this physician has reviewed in a series of papers the history of "intratracheal injections," and has greatly extended their application, and in employing the method I have followed the directions of technique which he advises, and have also used principally the prescriptions which he recommends, and which are published in the *British Medical Journal* for June 7, 1902.

These prescriptions differ from those which were employed at an earlier date in being made up with glycerine instead of with oil, and latterly the bactericidal ingredient which Dr. Campbell has most largely employed is medicinal izal, which has been shown by Delépine to be capable of destroying the tubercle bacillus in a dilution of 1 in 125.

The advantages claimed for the method are as follow :—

1. Its ease of application, and the fact that no discomfort is caused to the patient by the injection into the lungs of even such large quantities as two ounces of fluid. It is stated that enough izal oil can be injected at one sitting to disinfect a pint of muco-pus teeming with bacilli.
2. It is a rational method of attempting to destroy in its hatching place the tubercle bacillus, and is in this way analogous to the methods of surgical treatment of infected and septic areas elsewhere.

3. By disinfecting the sputum *in situ* it tends to prevent the dissemination of living tubercle bacilli.

4. The increased pulmonary secretion caused by the glycerine helps to wash out the lung, and rapidly clears it of accumulated pus and bacteria.

To these advantages may be added another—namely, that the treatment impresses the mind of the patients with the fact that something active is being done, and thus encourages them to help themselves by a rational mode of living. Mr. Campbell states that he considers it the only treatment necessary, and that his patients improve at once upon it alone; but I prefer to aid this local remedy as much as possible by general tonic and constitutional treatment.

A disadvantage incident to its employment is that it necessitates the constant attendance at hospital of the patients; this is only a real disadvantage, however, when it prevents them going to the country for a time, and when this is possible I always urge a patient to go after a preliminary series of a few injections. Nevertheless, it is hardly practicable in an out-patient department to carry out the method as fully as one would wish, owing to irregularity in attendance of the patients, and owing to the fact that the medical man is, as a rule, only on duty three days per week. To this last condition I attribute the fact that I am only able to bring forward less definite results than Mr. Campbell, for it is obvious that, at least, a daily injection is necessary in any case in which large numbers of bacteria are being produced in the lungs. Two injections daily, at any rate at first, are indeed what is generally advised.

During the last year I have treated altogether nine patients, and from this small experience have been led to believe that the method is worthy of a more extended trial. The following is a brief account of these cases:—

CASE I.—M. G., aged twenty-four, tailoress. History of chronic cough for over a year, with heavy night sweats during the last three months. Examination showed that there was a cavity in the apex of the right lung, and that the left apex was consolidating. The sputum was full of tubercle bacilli. Weight 5 st. 1 lb. This patient was under treatment for two and a half months, and received in all forty-seven injections of an izal

18 *Intratracheal Injections in Pulmonary Tuberculosis.*

mixture. During that time she lost only half a pound in weight, although previously she had been rapidly emaciating. After a month's treatment the sweating at night ceased, the appetite improved, and the left apex began to clear up. Then suddenly a brisk hæmoptysis set in and the patient ceased to attend. I have heard since that she died a few months later. During the time that she was undergoing treatment the patient herself felt much better.

CASE II.—J. P., aged twenty-five, stonecutter. Came first suffering from hæmoptysis. The right apex was consolidated, and tubercle bacilli were present in abundance in sputum. This patient was under treatment for only three weeks, during which period his weight increased from 8 st. 5 lbs. to 8 st. 9 lbs., and he felt much improved. He then left for the country, and I have not seen him since. Bacilli were still present in the sputum.

CASE III.—J. C., aged thirty-three, tailor. Marked dulness at right apex, and general bronchitis. Night sweats. Bacilli present in sputum. The bronchitis rapidly cleared up under the injections, and the perspirations ceased. Believing himself cured the patient returned to work after a few weeks.

CASE IV.—T. H., aged thirty-six; formerly a soldier, now a worker in a chemical manufactory. This patient attended first in February, 1903. There was then some dulness over apex of right lung, and night sweating. The patient was rapidly losing flesh. Tubercle bacilli were present in sputum. Ten injections of an izal mixture were given, and he then went away to the country. Before leaving the bacilli had left the sputum, and there was a gain of 6 lbs. in weight. He returned in May, 1903, to report himself, and was then looking much stronger and had no cough. There were no tubercle bacilli present, no crepitus, and only slight dulness. After six more injections he was discharged.

CASE V.—J. S., aged thirty-six, labourer. Had had chronic cough for seven months. The greater part of right lung was consolidated, and there was chronic tubercular laryngitis. Six injections were given, and the treatment was then discontinued owing to the very abundant secretion produced, which threatened to exhaust and almost drown the patient. Crepitation became apparent a few days later in the left apex, and the patient rapidly sank and died.

CASE VI.—Mrs. B., aged twenty-eight. Admitted to hospital on August 7th suffering from severe hæmoptysis. There was a

history of three months chronic cough. The base of the left lung was crepitating all over, and the expectoration was full of tubercle bacilli. Weight, 7 st. 5 lbs. This patient is still under treatment, and has received now forty-one injections. Her weight has slightly increased, up to 7 st. 10 lbs. ; the cough is diminished ; the lung appears to be undergoing a fibroid change ; expectoration is diminished, but still contains bacilli, though in diminished numbers ; and the night sweats are gone. The patient looks and is feeling better.

CASE VII.—Mrs. K., aged thirty-one. Cough commenced two months ago. The patient is much emaciated ; complexion sallow ; weight, 6 st. 2 lbs. The left lung is solid all over, and the right apex is crepitating ; there is colliquative diarrhoea. This patient was only given a few injections, and then, feeling how manifestly hopeless the case was, I discontinued them, and she ceased to attend. Even in this very severe case no discomfort was caused by injections of half an ounce of fluid.

CASE VIII.—A. Q., aged twenty-one. Cough for over a month. Apex of left lung slightly involved ; tubercle bacilli in sputum. This patient received six injections, and then left for the country. She is to report herself on her return.

CASE IX.—T. K., aged twenty-nine, porter. Came suffering from general bronchitis. The right apex contained a cavity, and was crepitating. After twenty injections this patient ceased attending, stating that he felt much better. There was no change, however, in the physical signs or in the character of the expectoration.

These cases thus reported (as they occurred) do not seem very convincing, and, of course, the number is too small to give a basis for any deductions ; but I think that their evidence is somewhat in favour of the method, and from my personal experience I have formed the following conclusions :—

1. Intratracheal injections of izal, even when given only once a day on three days of the week, are of decided value, at any rate as an adjuvant to constitutional treatment. Nearly all patients express themselves as feeling better. The breathing becomes easier, night sweats cease, the expectoration is lessened, and in some cases the physical signs improve.

2. This value is limited to chronic cases. In advanced cases of this type they appear to retard the progress of the

disease, and in early cases they may help to promote a cure. In rapidly advancing acute cases the treatment is of no value, and may prove harmful by increasing the pulmonary secretions.

3. In cases complicated with tubercular laryngitis it should probably not be employed, as there may be an increased danger of driving down bacilli and infecting a healthy lung.

REFERENCES.

1. Trans. Royal Med. Chir. Society.
2. Trans. of British Congress on Tuberculosis.
3. Brit. Med. Jour., June 7, 1902.

SKIN GRAFTING.

THE various methods of treatment of raw surfaces in order to hasten epidermisation are noted by Stuart M'Guire, Professor of Surgery, University College of Medicine, Richmond, Virginia, who speaks in favour of the use of oleaginous dressings which have fallen into unmerited disfavour. Dry dressings he does not favour, as he thinks their good effects are only temporary. He finds considerable benefit from the treatment of granulating wounds by the use of dressings that supply food directly to the cells. Such he finds furnished in Valentine's meat juice, diluted in three parts water, and applied on cotton as a moist dressing. It does good for a short time, but then loses its effects. When the pale granulations become pink and healthy it should be discontinued. Alterative dressings have their place as well as the protective. Most of his article is devoted to a description of the methods of skin grafting, and he especially notices his experience with the use of heterographs. He has had occasion to test whether the skin of the negro would lose its pigment on a white person, and has found in a coloured man that white skin grafts retained their colour. He says for obvious reasons this has deterred him from reversing the experiment and grafting negro skin on a white man. He has had good results with the use of pigskin grafts, showing clearly that pigskin will grow under these circumstances. Dr. William Flegenheimer has reported a case of successful pigskin grafting by Wolfe's method, and Dr. Browning of the University of Virginia has personally reported to him another.—*Richmond Journal of Practice*, September, 1903, and *Journal of the American Medical Association*, October 31, 1903.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Surgery: its Theory and Practice. By WILLIAM JOHNSON WALSHAM, F.R.C.S. Eng., M.B. & C.M. Aberd.; Surgeon, formerly Lecturer on Surgery and on Anatomy, St. Bartholomew's Hospital; Member of the Court of Examiners, Royal College of Surgeons, England; Consulting Surgeon to the Metropolitan Hospital, to the Hospital for Hip Disease, Sevenoaks, and to the Cottage Hospital, Bromley; late Surgeon in Charge of the Orthopædic Department, St. Bartholomew's Hospital; Examiner in Anatomy to the Conjoint Board of the Royal College of Physicians and Surgeons, and University of Aberdeen; and Examiner in Surgery to the Society of Apothecaries. Eighth Edition, with 622 Illustrations, including 20 Skia-gram Plates, by WALTER GEORGE SPENCER, M.D., M.B. (Lond.), F.R.C.S. Eng.; Surgeon to the Westminster Hospital. London: J. & A. Churchill. 1903. Pp. 1227.

BUT three years have elapsed since we had the pleasure of reviewing the seventh edition of this manual, in which Mr. Walsham had Mr. Spencer associated with him in the process of revision, consequently it will not be necessary to give an extensive review of the present edition. The revisal of this edition has been almost entirely entrusted to Mr. Spencer, than whom no one could be better fitted for the purpose. Not only will the revision be found pretty thorough, but a complete re-arrangement of the subject-matter of the text has been adopted. Over 270 pages are added, while the size of the page is also increased. This will give some idea of the amount of new matter incorporated in the present edition, while many new illustrations are also included. Some of the points to which we drew attention in our review of the previous edition as requiring revision have been rectified, but a couple still remain unaltered. Sir Charles Ball's method of per-

forming radical cure for inguinal hernia remains as it was in the seventh edition, whereas we pointed out that he had modified it about 1898, the modification, as we pointed out, consisting in displacing the sac and anchoring it to the abdominal wall by suture after the torsion had been performed.

None of the more recent methods of radical cure of femoral hernia are yet included; still the book is not by any means supposed to take the place of a manual on operative surgery, consequently we cannot very adversely criticise the omission. The fact that 38,000 copies of this work have already been published is ample proof of a popularity which the present edition will increase.

It is with much regret that we have to record the death, on October 5, 1903, of the accomplished surgeon whose name this work bears. On the day named Mr. Walsham passed away after a rather prolonged illness.

The Principles of "Open-Air" Treatment of Phthisis and of Sanatorium Construction. By ARTHUR RANSOME, M.D., M.A. (Cantab.), F.R.C.P., F.R.S.; Hon. Fellow of Gonville and Caius College, Cambridge; Consulting Physician to the Manchester Hospital for Consumption and Diseases of the Chest and Throat; late Examiner in Public Health at Cambridge and Victoria Universities. London: Smith, Elder & Co., 1903. Pp. 104, with Plans.

DOCTOR RANSOME'S reputation as an authority on phthisis led us to read his present work with expectation of profit and pleasure. In this we have not been disappointed. Believing that the efficacy of the open-air method in the cure of phthisis has been established beyond doubt, he has endeavoured to supply us with a satisfactory statement of the principles upon which the course of treatment should be pursued, and to place the method on a scientific basis, in order that it may be rescued from "the position of empiricism into which, at the present time, it seems in some danger of falling."

The work is divided into four parts. The first essay is devoted to the consideration of the principles of sanatorium

and open-air treatment, the factors of the treatment and the modes of action of the means employed. In the second essay morbid conditions resisting tubercle "venosity," the prevention and curative influence of cellular plethora, phagocytosis, and the principles of feeding and blood-making in phthisis are dealt with. The third and fourth essays deal with the principles of sanatorium construction and the pure-air treatment of phthisis at home respectively.

We note that the author lays stress on the importance of promoting the comfort of patients undergoing sanatorium treatment, and of providing them with suitable amusements. Too often, we fear, these points are overlooked by theorists, with the result that patients suffer needlessly in body and mind, and injury is done to them which more than outweighs the advantages derived from extreme vigour in the treatment adopted.

In the paper on sanatorium construction, the pavilion system is advocated, and plans for a model sanatorium on this principle, drawn by Mr. G. A. Bligh Livesay, F.R.I.B.A., are appended to the work.

The Medical Examination for Life Assurance: With Remarks on the Selection of an Office. By F. DE HAVILLAND HALL, M.D. Third Edition, greatly enlarged. Bristol: John Wright & Co. 1903. Pp. 112.

THIS handbook will be found useful and suggestive by practitioners who are commencing work under Life Assurance Companies. The coloured map shows at a glance the safe, doubtful and dangerous regions of the world as seen from an insurance point of view. The author wisely suggests that cases can be accepted for endowment policies, payable at sixty or sixty-five, who would be ineligible for whole life policies, such, for example, as have a history of enlarged glands removed by operation, or have been the subject of transient glycosuria. The author also speaks highly of the system (which, curiously enough, so few offices have yet adopted) of replacing "loading" by charging an extra premium by placing a debt in the policy. This debt is diminished each year until, at the expiration of the term for which the life

may be expected to live, the debt is cancelled, and the sum is payable in full on subsequent death.

A Text-book of Obstetrics. By J. CLARENCE WEBSTER, M.D., F.R.C.P.E., F.R.S.E.; Professor of Obstetrics and Gynæcology in Rush Medical College, &c., &c. With 383 Illustrations, 23 of them in colours. London, New York and Philadelphia: W. B. Saunders & Co. 1903. Pp. 767.

DR. WEBSTER'S researches into the anatomy of pregnancy, labour, and the puerperium are well known to obstetricians, and consequently it is not surprising to find that the volume before us is characterised by the particular attention which it devotes to this important subject. Indeed in this respect the book is markedly superior to the majority of—if not to all—its American contemporaries. All through, the attention that is devoted to anatomical, physiological and pathological detail is very evident, and the result is a really scientific work on obstetrics, and not the mere compend of treatment, coupled with kindred profuse illustrations, that is too often the characteristic of American books.

Space and time prevent us from writing a lengthy criticism, and one which would do justice to the work before us. We may say, however, that both to the student, in the widest sense of that term, who desires an insight into the science of obstetrics or information on any particularly moot point, and to the practitioner who requires the latest opinion on any point of practice, Dr. Webster's book will be of the greatest value.

We regret, however, that the author has been led into the adoption of Americanese spelling. The latter has not been adopted by many of the most prominent American writers, and it strikes us as being particularly out of place in the writings of an Edinburgh graduate and a Fellow of the Edinburgh Royal Society.

We notice that Dr. Webster, in common with another American author of a recent work on obstetrics, has been drawn into a mistake regarding the original designer of the incubator, or *couveuse*, figured on page 279. Dr. Webster states that the incubator he figures was devised by De Lee.

As a matter of fact, he reproduces an exact picture of the *Léon couveuse*—a French incubator, which has been in use for many years in France, and which was introduced by the writer into the Rotunda Hospital some six or seven years ago. We do not know when De Lee “devised” it, but as it has only recently come to be shown in American books as his special instrument, we presume that it is of comparatively recent adoption in American hospitals.

As we have referred to the incorrect attribution of this incubator to De Lee, we may, on the other hand, draw attention to the fact that Dr. Webster particularly notes that the so-called Credé’s method of delivering the after-birth was originated not in Germany, but in Dublin, and that hence it is correctly described not as Credé’s, but as the Dublin method.

A Treatise on Diseases of the Rectum, Anus, and Sigmoid Flexure. By JOSEPH M. MATHEWS, M.D., LL.D.; President of the American Medical Association, 1898; Professor of Surgery, and Clinical Lecturer on Diseases of the Rectum, Hospital College of Medicine; late President, Mississippi Valley Medical Association; President, Louisville Clinical Society, Louisville Surgical Society, Kentucky State Medical College, and State Board of Health of Kentucky, &c. With six Chromo-lithographs and numerous Illustrations. Third Edition, Revised. New York and London: D. Appleton & Co. Pp. 589. 1903.

In a treatise, already in its third edition, of the size of that before us—close on 600 pages—coming from the pen of one who, if we are to judge from the list of Presidencies he has filled, must be considered a distinguished surgeon by his American *confrères*, we naturally expect something well worthy of perusal and likely to enhance our knowledge of the subject to which it is devoted. Our expectations, unfortunately, were but born to be early disappointed. No less than 90 pages are devoted to hæmorrhoids and their treatment—a subject which could well be treated in less than 20. Sixty-three pages are devoted to fistula-in-ano, but information is scanty and scattered. What good object can

be gained by filling six pages with a discussion on the use of the elastic ligature as a method of treatment for this condition?

Cancer of the rectum and its treatment is the subject which, of late years, has largely engrossed the attention of surgeons who have made rectal surgery a specialty, and has made, so far as its treatment is concerned, the greatest advances; still in the 70 pages which the author has devoted to its consideration in the treatise before us we confess we were sadly disappointed. In speaking of the pathology and classification of rectal carcinomata, at page 393, the following sentences occur: "I have said that I have often met with scirrhus. I must qualify the expression by saying that I believed it to be scirrhus because I found it a hard growth imbedded in the submucous tissues. The epithelial form of cancer is supposed to begin in the mucous membrane and, for a while at least, is movable with it, the difference being that in the epithelial variety you could freely move the tumour over the submucous tissues, and in the scirrhus form you could freely move the mucous membrane over the tumour in its incipency." From this of course we must infer that the author considers scirrhus cancer, when it occurs, starts in the submucous tissue underneath the muscularis mucosæ. In the light of modern pathology who ever heard of such nonsense? Such a sentence occurring in any book much less a treatise on rectal diseases by one supposed to be a specialist on the subject, is quite sufficient to condemn it. Again, what good object can be gained from quoting the statistics of the years 1869-1877, or those of 1884, to argue against a certain operation and show its risks. The surgery of those years must now be looked upon as mediæval compared with that of to-day. Similarly to recommend divulsion or forcible dilatation for simple stricture of the rectum savours more of the surgery of the dark ages than of the present. Again, what can be thought of describing electrolysis in a modern text-book as a method of treatment of simple stricture?

Most surgeons of modern tendencies prefer inguinal to lumbar colostomy, yet the author of this treatise still clings to his first love, and prefers the lumbar or extra-peritoneal

procedure; however, he has described a method of anterior colostomy which is simply that of Maydl.

Dr. Mathews does not believe that excision of cancer of the rectum gives as good results when compared with operations for malignant disease elsewhere. We think that the majority of experienced surgeons will differ from this view, especially when rectal cancer is removed in an early stage and removed completely.

The points to which we have drawn attention will suffice, we hope, to show that the book is not one which comes up to modern requirements. We could not honestly recommend it to either the student or general practitioner, much less to the practical general surgeon or specialist.

The Peritoneum. By BYRON ROBINSON, B.S., M.D. Chicago, Ill. Part I. Histology and Physiology. With 247 Illustrations. Chicago: Medical Book Company. 1899. Pp. 406. Bibliography of the Peritoneum. Pp. 103.

THIS work is one which does credit to the Chicago Medical Book Co., who issue it, both as regards external and internal appearance—the paper, the printing, and the reproduction of the drawings being excellent. The latter are two hundred and forty in number or thereby, of which about three-fifths are original—these are mainly outlines of endothelial cells, and so the labour of preparation is not great; the remaining two-fifths are copies, either from the well-known “Handbook for the Physiological Laboratory,” by Burdon Sanderson and others, or from various continental authors.

The book is in its second edition. It forms Part I. of a work on the peritoneum, and deals with its histology and physiology. It includes more than five hundred pages, of which over one hundred are taken up by a copious bibliography. The remaining pages are divided by the author into ten chapters, of which the first, extending to thirteen pages, deals with what the author calls an historical sketch, which he acknowledges to be incomplete. The second chapter, numbering twenty-three pages, details the subject-matter of the book—the histology and physiology of the peritoneum. Not content with this, however, the author spreads himself as it were and devotes the succeeding two hundred and forty-

one pages to a consideration of the various histological constituents of the suspensory apparatus of the abdominal portion of the alimentary canal. Chapter III., running to sixty-nine pages, deals with the mesothelial lining (endothelial cells, and the various forms of stomata); Chapter IV., numbering seventy-one pages, with the sub-peritoneal tissue; Chapter V., numbering twenty-seven pages, with the blood-vessels; Chapter VI., occupying fifty-one pages, with the lymphatics; and Chapter VII. (twenty-three pages) with the nerves—in all nearly two hundred and seventy pages of print, devoted to a description of the appearances, almost all to be seen with the microscope on a surface view, or on a trans-section from any part of the mesentery. Then follows Chapter VIII., running to one hundred and four pages, dealing with physiology; Chapter IX., numbering eleven pages, with technique—the essentials of which are to be found in almost every chapter except the first and last; and, finally, Chapter X., numbering seven pages, devoted to a *résumé* of the physiology. The pages of the latter three chapters, and those devoted to the histology, give a total of four hundred, not a bad show for the minute anatomy and physiology of the peritoneum if printed words count for anything.

In the same or even a less number of pages we have often read, with pleasure and profit, clear and intelligent descriptions of the entire anatomy of the various groups of the coelomate metazoa, which form the bulk of the animal kingdom; but these were by masters, to whom clear writing means excessively hard thinking. This book, on a limited portion of the anatomy, in which there is to be found little, if anything, that is new, is not to be taken seriously. There is evidence on every page, full as these are, of almost endless repetition and want of thought. Clearly Dr. Byron Robinson is a man whose energies are concentrated on matters very different to those on which he has attempted to write, although to do so may have been to him a labour of love.

The author makes one innovation not generally followed (to our knowledge) by the writers of medical books—that is, he introduces his work and heads his various chapters after the manner, say, of Haeckel in his popular scientific writings, with aphorisms from men of such eminence as Schiller,

Virchow, Gibbon, Dryden, Wordsworth, Lord Bacon, Tennyson, Froude, Emerson, Locke, and Ruskin—a list which sufficiently shows his catholicity and literary acquirements. Had the author taken to heart, say, the heading of Chapter X. his work would not have appeared in its present form.

We regret that we have been unable to write favourably of this book, because we have some familiarity with the amount and excellence of the original work in every branch of natural science, including medicine, which is now being poured forth from the many scientific laboratories in the great country of our kinsmen beyond the Atlantic—work which will enable them before many decades of the present century have passed away to overcome the patient, far-seeing, and intellectual German, who has for so long led the intellectual life of the other less prudent, less far-seeing nations of the world, with much profit to them, and, as he deserves, with still more profit and honour for himself.

ALEC FRASER.

A Thesaurus of Medical Words and Phrases. By WILFRED M. BARTON, M.D.; Assistant Professor of Therapeutics and Materia Medica, and Lecturer in Pharmacy, Medical Department Georgetown University. And WALTER A. WELLS, M.D.; Demonstrator of Laryngology, Georgetown University; Adjunct Professor of Laryngology, Washington Post-Graduate School; Fellow of the American Rhinological, Laryngological and Otological Society, &c. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

THIS extremely neat and well-printed octavo of 534 pages represents, as we are told in the preface, the work of three years. Its inception was the result of "an effort to find a certain technical term to express an idea which had temporarily escaped our minds, and which was needed in the course of some literary investigations we were pursuing at the time. The lengthy search and the great number of books that had to be consulted before the required term could be found, suggested the urgent necessity of a work of reference that might be of assistance to others placed in a like situation." The

resulting volume now before us "aims to perform for medical literature the same services which Roget's 'Thesaurus of English Words and Phrases' has done for literature in general; that is, instead of supplying, as the ordinary dictionary does, the meaning to given words, it reverses the process, and when the meaning or idea is in the mind, it endeavours to supply the fitting term or phrase to express the idea."

Many students and practitioners will, doubtless, find this volume often supply a want in that direction. Still, as we all expect a great deal in consulting a *Thesaurus*, we fear there will be disappointments. We have searched in vain, under the headings *lacrymal* and *tear*, for an item whose longitude used to tickle us in our student days—*dacryocystosyringokatakleisis*; and under *bone* and *operation* for Langenbeck's favourite surgical procedure of *osteopalinthesis*. So that we still fear that owners of this very excellent volume will sometimes feel the want felt by the authors thereof before its commencement.

Catechism Series. Physiology. Part IV. Second Edition.
Edinburgh: E. & S. Livingstone. 1903. Pp. 72.

THE second edition of the "Catechism Series" of Physiology is completed in this part, which deals with the nervous system, physiological chemistry, and (in an appendix) the electrical and other apparatus employed in physiological investigation. At pages 42 to 49 a short outline of the development of the brain and spinal cord will be found useful.

The information given is sometimes very meagre. Thus, in answer to the question, on page 4, "What is the supposed use of the Semicircular Canals?" we are told "They are probably the peripheral end organs of the 'sense of rotation.' As to how this is accomplished there are two theories—1. Statical theory (Goltz). 2. Kinetic theory (Crum-Brown). It is probably due to a stimulation of the hairs, arising from the columnar cells of the 'crista acustica.'" Now this is not very clear or instructive, and we think it would have been better to leave out the question altogether than to give to it such an imperfect and unsatisfactory answer. Curiously

enough, this very question in a somewhat variant form again crops up at page 42, where we are told more explicitly that the semicircular canals "are the peripheral end organs of a sensory apparatus, for enabling the animal to maintain its head in a state of equilibrium." But the other "chief" theory as to the use of the canals is dismissed with the words—"2. The 'Kinetic Theory' (Crum-Brown)."

At page 3 sounds are divided into—"1. Noises. 2. Musical Sounds." But no attempt is made to define either expression.

The "foramen of Majendi" (page 28) is an inexcusable misspelling of a well-known proper name.

Diseases of the Ear: A Text-Book for Practitioners and Students of Medicine. By EDWARD BRADFORD DENCH, M.D. With 15 Plates and 158 Illustrations in the Text. Third Edition, Revised and Enlarged. 4to. New York and London: D. Appleton & Co. 1903. Pp. 718.

THE author, in his preface, tells us that in the preparation of the present work it has been his aim to adapt it to the needs both of the general practitioner and of the special surgeon. For this reason minute pathology has not been considered extensively.

In detailing the various manipulative procedures, he has preferred to err on the side of prolixity, for the benefit of those not familiar with the subject. It has also been his purpose to keep constantly before the reader the fact that many diseases of the ear should not be considered by themselves, for the reason that they are often local manifestations of systemic conditions.

In the present edition a complete revision of a large portion of the work has been rendered necessary by the extensive advances in otological surgery which have been made in recent years. This applies especially to those chapters devoted to the operative treatment of chronic suppurative otitis media, and of the various intra-cranial complications of middle-ear suppuration.

As this is the third edition it is not necessary to go into detail. Suffice it to say that this excellent and comprehensive treatise is written in an easy and readable style, is clear and

definite in its descriptions, and is entirely free from those illiterate transatlanticisms that mar so many medical works written by Americans.

To any one requiring a work on aural surgery complete and well up to date we can safely recommend Dr. Dench's third edition.

Ocular Therapeutics, According to the Most Recent Discoveries. By DR. A. DARIER. Translated by DR. SYDNEY STEPHENSON, M.B. London: J. & A. Churchill. 1903. Pp. 278.

THE translator in his preface, or "foreword," as he pedantically calls it, states that "this more or less literal translation has been made from the second edition of Dr. A. Darier's '*Leçons de Thérapeutique Oculaire*.'" In presenting it to the medical profession he feels that "no apology is called for, inasmuch as the author enters into new remedies and methods of treatment that are yet scarcely known in this country, besides describing fully the better understood treatments commonly adopted for the cure of eye diseases."

The almost purely personal character of the lectures has been, he says, criticised in some quarters. It is mainly accounted for by the fact that they are the outcome of Dr. Darier's own researches into the action of the remedies he deals with.

Two new chapters—XXII. and XXV.—have been added. These have not yet appeared in the original work.

The "*Leçons de Thérapeutique Oculaire*" has been awarded the Desportes Prize (1902) by the French Academy of Medicine as "the best work published on practical therapeutics."

Dr. Darier is an optimist in therapeutics, and possesses unbounded faith in the efficacy of remedies, especially new remedies, but he gives in each case a reason for the faith that is in him, and as the book deals almost exclusively with his own experiences and experiments, it possesses an immense personal interest, and has the advantage of not being burdened with contradictory statements and opinions.

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In the earlier chapters he deals specially with the characteristics of the various drugs and therapeutic agents. Into the advantages of sub-conjunctival injections, the uses of dionine, supra-renal extract and protargol he enters very fully, and also discusses the advantages of almost every other drug used by ophthalmologists, except argyrol, of which he makes no mention, probably because it had not been invented at the time the book was written.

In the later chapters he deals more with the therapeutics of the various diseases of the eye.

The book is in every sense a readable one, and the translator has done his work well. We feel sure that every oculist will benefit by the careful perusal of this valuable addition to ocular therapeutics.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug-giving, useful for the Prevention of Disease, and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D.; Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital, and to the Philadelphia Jewish and Rush Hospitals, &c. Volume VIII.:—Rest, Mental Therapeutics, Suggestion. By FRANCIS X. DERCUM, M.D., Ph.D.; Professor of Nervous and Mental Diseases in the Jefferson Medical College of Philadelphia; Neurologist to the Philadelphia Hospital; Consulting Physician to the Asylum for the Chronic Insane at Wernersville; Consulting Neurologist to the St. Louis Hospital; Consulting Neurologist to the Jewish Hospital, &c., &c. London: Rebman, Limited. 1903. 8vo. Pp. x and 332.

THE contents of the volume before us are well calculated to maintain the reputation of this monumental work. The unique importance of "rest" in health and—more emphatically so—in disease is fully appreciated by all: by the uneducated, and even the primitive savage, as well as by the average intelligent citizen and the scientific specialist. The recognition of the value of "mental therapeutics" in general is of more recent origin; and that of the special item known as

"suggestion" is, of course, the latest of its far-reaching developments. In the arrangement and grouping of the conditions which give rise to development of the collective phenomena which are now so often meant to be connoted by the employment of the rather vague term *neurasthenia*, we think that the forms of *fatigue* might have been grouped with advantage.

Of the two great types of fatigue, muscular and nervous (or mental), the conditions and consequences of the former were described with great care (and for the first time) by Dr. John Knott, of this city, some fifteen years ago, under the heading of "*The Fever of Over-Exertion*"—a communication made to the Medical Section of the Royal Academy of Medicine in Ireland. Attention was specially directed by Dr. Peter, of Paris, to the various symptoms which he found to result from excessive *brain-work*, especially in girls' schools. The simpler cases of the latter displayed the features of the more or less aggravated forms of "brain-fag" which have since become so familiar to American medical writers. The more aggravated ones displayed symptoms which closely resembled, and had previously been always mistaken for, *enteric fever*. The results of the "fever of over-exertion," on the other hand, were the gradual development—when neglected at the onset—of symptoms and progress coinciding with those so often connoted by the mysterious phrase "*progressive pernicious anæmia*."

The author's second chapter deals with "chronic fatigue: the fatigue neurosis," in which the "undue expenditure of energy that results in over-fatigue" leads to the establishment of "a well-defined neurosis . . . widely known among the laity as 'nervous prostration,' and among physicians as *neurasthenia*."

We venture to suggest that the two great classes of *expenditure of energy* should be differentiated.

The suggestions for the treatment of rest are, however, admirable, and deserve to be carefully studied by all physicians. And so, indeed, we may say, is the case of the other sections of this volume.

The importance of the personality of the physician, and his attitude to the patient, are admirably discussed under the

head of "mental therapeutics." The hints and suggestions given for the treatment of hysteria, hypochondriasis, and melancholia are often of great value.

Text-Book of Operative Surgery. By DR. THEODOR KOCHER, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Authorised Translation from the Fourth German Edition. By HAROLD J. STILES, M.B., F.R.C.S. Edin. ; Surgeon to the Royal Edinburgh Hospital for Sick Children ; Late Assistant Surgeon, Edinburgh Royal Infirmary ; Examiner in Anatomy, Royal College of Surgeons, Edinburgh. With 255 Illustrations. London : Adam and Charles Black. 1903. Pp. 440.

BRITISH surgeons generally will hail with delight the appearance of the present volume. Though there are occasionally described operative procedures of other recognised leading surgeons, the personality of the distinguished author is apparent in every page. The volume contains almost double the number of pages of its predecessor, while the type is somewhat smaller. It will thus be evident that the present edition is practically a new treatise. This is only what we should expect if the enormous advances operative surgery has made within the time that has elapsed since the first translation appeared—viz., eight years—are considered. Even in operations with which the name of Kocher has been for many years associated a perusal of the volume before us will show that the author does not consider that finality has been reached, for many changes and modifications have been made by him in his methods of procedure.

The most notable of these changes are to be found in his operations for the removal of the tongue, his operations on the thyroid gland, his operative procedures on the stomach, especially that for malignant disease of the pylorus, as well as his method of removal of carcinoma of the rectum.

Operative procedures of which Kocher does not seem to have had much experience are but briefly described, such as "Complete Prostatectomy," and in general it might be said operations on the genito-urinary passages. The translation has been carefully done, and British surgeons owe a deep

debt of gratitude to Mr. Stiles for placing before them the latest edition of the work of a surgeon of world-wide renown.

We strongly recommend the book to every operating surgeon.

Chronic Headache and its Treatment by Massage. By GUSTAF NORSTRÖM, M.D., of the Faculty of Stockholm. New York and London: G. E. Stechert. 1903. 8vo. Pp. 59.

THE germ of this pamphlet was from the author's theory, published in 1885, that "many cephalalgias, usually collected under the same generic name, were secondary neuralgias, starting from chronic inflammatory deposits in the muscles of the neck." He further illustrated this hypothesis by referring "to cases of sciatica which had lasted several years, and which had been cured by causing inflammation of the gluteal or pelvic-trochanteric muscles to subside." Accordingly he applied, in cases where he had reason to believe the existence of such origin, the massage treatment, combined with other general remedies as other complications or co-existing diseases appeared to indicate; and, as his reported cases appear to show, with very favourable results. We have no doubt whatever that the inveteracy of many chronic neuralgias are due to such complications, and on this account we strongly recommend this suggestive booklet to the attention of our readers.

Die Reform der Frauenkleidung auf gesundheitslicher Grundlage. Von Dr. med. O. NEUSTÄTTER. München: Datterer & Cie. 1903. Pp. 109.

THIS book deserves the careful attention not only of the medical profession, but of the general public, more particularly of its female portion. The extraordinary way in which women distort their figures, making themselves one shape one year and another the next, and each as far as possible from the shape God gave them, has always excited the interest and amusement of the inferior sex. But it is no laughing matter, and a subject of painful interest to consider, as the author does, not only the distortion of the outward form of

the body, caused by the foolish and injurious mode of dressing adopted by fashionable ladies, but, still worse, the damage and malformations produced in the viscera by tight-lacing and other freaks of fashion.

Dr. Neustätter, who is evidently very much in earnest, discusses first the constricted waist, and shows that it does not exist in the ideal form of female beauty as depicted in the best Greek statues. He shows that the corset is not only unnecessary, but that it is highly injurious, both to beauty and to health. In a number of admirable photographs and drawings he demonstrates the truth of these views. He then lays down a number of rules to which a rational female dress should conform, and combats the objections which have been or might be made to the reform in clothing which he advocates. He gives several figures of women dressed according to the reformed principles, which show that they would lose nothing in style and elegance if they adopted the new mode of dress, while they would doubtless gain much in comfort and in health.

We would most cordially recommend the work to our readers, and we should be glad to see it translated into English, so that it might have a larger circulation among us.

The Boy's Venereal Peril. Elaborated from a Paper, with the same Title, read at the Fifty-fourth Annual Session of the American Medical Association, and published in the *Journal of the American Medical Association*, July 4, 1903. Reprinted from *The Journal of the American Medical Association*. Chicago: Press of American Medical Association. 1903. 8vo. Pp. 35.

THIS pamphlet deals in a very candid and straightforward way with the subject which its author has undertaken to discuss. He here gives his initials only—alleging as his reason that he “believes that the objects of this paper will be furthered by substituting initials for his name and by omitting his address.” He emphasises—and we think very wisely—the need for public enlightenment. There is no doubt that some of the saddest cases of physical ruin resulting from venereal disease might have very easily been saved at the start if the

victim had been but a *little less* ignorant—we may even say, *innocent*. The existence of all types of venereal disease being due to prostitution, all youths entering upon the stage of life should be forewarned—for the author emphasises the unlikelihood that prostitution will ever be wiped off the face of the earth. “Vile women have always existed. They are called prostitutes; the Bible speaks of them as whores.” The rising generation is here informed of the evils which follow their companionship, and warned and advised regarding the principal dangers.

The pamphlet is undoubtedly an instructive one. He specially warns the infected youth to avoid quacks and consult a physician. We feel disposed to suggest that the information here given should be obtained from the family physician by every youth at the critical period of his life.

Bettws-y-Coed as a Health Resort. By a Member of the Medical Profession. Oswestry and Wrexham: Woodall, Minshall, Thomas & Co., Caxton Press. 1903. Pp. 41.

A CLEARLY written, beautifully printed, and profusely illustrated account of a charming inland Welsh health-resort. We have a shrewd suspicion of the author's identity, and we are sorry that his modesty should have suppressed it. As a rule, there is something deterrent to the seeker after truth about anonymous publications. And when a man knows what he is writing about, and how to write—when, further, he is admirably well fitted for the task he undertakes—then, in our opinion it is better that he should come into the open. No reasonable man, no matter how great a stickler for medical etiquette, would object to the author's name on the title-page of this booklet, and in our opinion it would have carried more weight had it borne that name. However, a second edition will doubtless soon be called for, and then the author may well reconsider his determination to be “The Unknown”—the “Knight Fainéant” who champions the claims of the “Hamlet in the Wood”—which is the meaning of *Bettws-y-Coed*.

In connection with the publication of this interesting little book, we may mention that a fully-equipped Meteorological

Station of the Second Order has just been established at Bettws-y-Coed through the energy of Dr. Douglas Macdonagh. The equipment consists of a Kew pattern barometer, a Stevenson's screen containing maximum, minimum, dry and wet bulb thermometers, a black-bulb solar maximum thermometer, a grass minimum thermometer, earth thermometers (1 foot and 4 feet below the surface of the ground), a Campbell-Stokes sunshine recorder, adjusted to the latitude and set in cement at an altitude of 150 feet above sea level; and a range-gauge of the Meteorological Office pattern, also set in cement on a hill in Dr. Macdonagh's grounds, 150 feet above the sea. The barometer is in the dwelling-house, Tyn-y-Bryn, 100 feet above sea level, and the thermometer-screen is 4 feet higher, not very far from the house. The observations which will be taken must go far to remove the erroneous impression which some people seem to entertain about the climate of Bettws-y-Coed.

What a Piece of Work is Man! With Christian Evidences.

By FREDERICK JAMES GANT, F.R.C.S.; Consulting Surgeon to the Royal Free Hospital; Author of "Works on Surgery" and "Small Books on Great Subjects." London: Elliot Stock. 1903.

THE piously thoughtful and appreciatively philosophical contents of this small volume offer an item of the most assuring evidence that there is no incompatibility between the most active surgical practice and the most profound devotion to the sublime truths of the Christian religion. The venerable surgeon introduces the booklet with a most appropriate dedication: "In ever-present memory of the author's wife, for forty years the light of his life, 'What a Piece of Work is Man' is dedicated, with devoted homage to her womanhood." The tone of veneration and devotion displayed in this dedication displays the keynote of the whole contents. And our readers will no doubt remember that the author is no mere blind, indiscriminating votary of the female form divine, for nobody has more forcibly depicted the shady aspect of some of the worst specimens of the weaker sex than he did some few years ago in his "Mock Nurses of the Nineteenth

Century." The text is divided into five sections—I. The Testimony of Witnesses within the Human Mind to Theology ; II. The Soul's Resurrection from Death ; III.-IV. The Witnesses within (*continued—concluded*) ; V. The Witness of the Human Body. The features and functions of the human soul in its relation with its bodily tenement are considered with philosophical insight and reverential piety.

We recommend the little volume to the notice of our readers—especially, of course, the elderly ones.

Surgical Diseases of the Abdomen ; with Special Reference to Diagnosis. By RICHARD DOUGLAS, M.D. ; formerly Professor of Gynæcology and Abdominal Surgery, Medical Department, Vanderbilt University, Nashville ; Ex-President of the Southern Surgical and Gynæcological Association ; Fellow of the American Association of Obstetricians and Gynæcologists ; Member of the British Gynæcological Association, &c. Illustrated by 20 full-page Plates. London : Rebman, Ltd. 1903. Pp. 883.

THE large volume before us is devoted to a consideration of the diagnosis of the various surgical affections met with in the abdominal cavity. It is the outcome of 18 years' practical work in the special field of abdominal surgery, and a systematic study of the general literature which he found of greatest value. To elucidate the difficulties of diagnosis the author gives us a careful study of the ætiology, pathology and symptoms of those conditions which require surgical relief. Everything from the fashionable and frequent complaint known as appendicitis to those rarer conditions of pancreatitis and pancreatic cysts is dealt with in this way. It would be impossible to single out for special reference any section from a book so uniformly well written, still we cannot refrain from mentioning, as particularly good, the sections devoted to "fibromyomata of the uterus," "neoplasms of the ovaries and broad ligaments," and "ectopic gestation," subjects which in other works on general abdominal surgery are generally conspicuous by their absence. Another excellent feature of the book is the very full bibliography which is given at the end of each section ; but in several cases more recent

editions of some of the works consulted have been issued—notably, Treves's Intestinal Obstruction referred to is the edition of 1884, Bland Sutton's Tumours is that of 1893, and Henry Morris's Diseases of the Kidneys is the single volume published in 1885.

But few points are open to criticism, of which we may mention the statement that "partial nephrectomy is not to be recommended," and that "intussusception should always be first treated by inflation." Though, of course, we must remember that the book is written mainly with a view to diagnosis, still it would be better to either completely ignore the treatment altogether or let what is said on the subject be as sound as the diagnosis, and thus maintain a uniform standard of teaching.

Treves without the title is just as well known as Treves with the title, yet surely, out of courtesy, it would be better to write "Sir Frederick Treves" than "Mr. Treves" as we so frequently find throughout the pages of this book.

The volume is one we can recommend.

Surgical Lectures and Essays. By A. MARMADUKE SHEILD, M.B. (Cantab.), F.R.C.S. ; Surgeon to St. George's Hospital, and Surgeon in Charge of the Department for Diseases of the Throat ; late Assistant Surgeon, Aural Surgeon, and Lecturer on Operative Surgery, Charing Cross Hospital ; Consulting Surgeon, Hospital for Women and Children, Waterloo Bridge-road, and Hospital of St. John and Elizabeth, Grove End-road, N.W. London : The Medical Publishing Co., Ltd. Pp. 312.

MR. SHEILD is to be thanked for presenting to the profession in such an acceptable form the clinical lectures and essays of which the volume before us consists. The subjects dealt with are of great surgical importance. The first two papers are devoted to "Remarks on a Series of Cases of External Operations on the Larynx," and "The Experience of forty-two cases of Goitre treated by Operation." These are followed by a number of papers, occupying more than one-third of the total number of pages of the volume, on affections of the breast and their surgical treatment—a subject on which Mr.

Sheild is such an authority. Other papers are devoted to "Acute and Chronic Iliac Abscess," "The Modern Treatment of Fractures and the Management of so-called Simple Fractures," "A Clinical Lecture on Hydrocele" and "Ulcers of the Tongue." The concluding papers, on "the Significance of Acute Septic Peritonitis" and "Appendicitis," are especially interesting on account of the frequency with which we meet such conditions, and the appalling results that must of necessity, unfortunately, attend their tardy recognition.

To any surgeon acquainted—and what surgeon is not?—with the author's treatise on diseases of the breast it is unnecessary to say more than that these lectures and essays fully maintain his reputation as a writer whose works are of great practical value. Our perusal of the volume before us has been both profitable and pleasurable.

The Illustrated Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D.; Assistant Obstetrician to the University of Pennsylvania Hospital; Editor of the American Pocket Medical Dictionary; Fellow of American Academy of Medicine. Third Edition. Revised and Enlarged. London, Philadelphia, New York: W. B. Saunders & Co. 1903. 8vo. Pp. 798.

JUST two years ago we reviewed the second edition of Dr. Dorland's "Illustrated Medical Dictionary."

On that occasion we expressed a general approval of the work, while we did not hesitate to criticise it to some extent. Effect has been given to some of our suggestions in the revision of the present edition, but in the Table on page 258 the errors in the incubation periods of measles, scarlatina, and the vaccine disease stand as before. This and other similar Tables form a feature in the work. Many of these "Tables" have been amplified, and so rendered more useful—for example, the lists of Acids, Bacteria, Stains, Tests, and Methods of Treatment.

To show how thoroughly this Dictionary has been kept up to date we may mention that "Polonium" is defined (page 545) as "a rare metal resembling bismuth, discovered in 1898, in pitchblende. It has radiant properties like those

of radium, but is less active." Radium itself finds a place at page 581, and is defined as "a rare metal obtained from pitchblende: discovered in 1899. It is stated that radium affords a cheap, simple, and most efficient means of radiography."

The illustrations are worthy of all praise, and add greatly to the value of the work, which reflects in every page the progress of medical science.

Introduction to the Study of Malarial Diseases. By DR. REINHOLD RUGE. Translated by P. EDGAR, M.B., C.M.; and M. EDEN PAUL, M.D. London: Rebman. 1903. Pp. 138.

THIS very useful book was written for the assistance of ship surgeons and colonial surgeons, who are frequently thrown entirely on their own resources in foreign countries, where they have to deal extensively with the diagnosis and treatment of malarial diseases. The author, himself an officer in the Imperial German Navy, has aimed at conciseness, and it is wonderful the amount of information he has compressed into his pages.

The work opens with a short introduction on the distribution and history of malaria. The history is divided into three periods: (1) From the time of Hippocrates to 1640, when Peruvian bark was introduced as a remedy into Europe by the Countess Cinchon; (2) from 1640 to 1880, the year of the discovery of the malarial parasite by Laveran; (3) from 1880 to the present time, including the discovery of the life-history of the parasite in the human blood by Golgi, the transmissibility of the infection by mosquitoes, and the other recent works of Koch and many other investigators.

In the chapter on ætiology, a full account is given of the three malarial parasites—that of tertian fever (*Hæmabæba vivax*), that of quartan fever (*Hæmamaeba malarie vel Laverani*), and that of tropical or æstivo-autumnal fever (*Hæmomenas Laverania*). The two former are grouped as the large parasites; the third, as the small or ring shaped or crescent forming parasite.

The life-history of these organisms in the human blood and in the body of the mosquito is clearly and amply described.

A good description is given of the different kinds of mosquito commonly met with, and of their habits and life-history. Very full directions also are given for the difficult work of dissection of these animals, and for the search in their stomach and salivary glands for the parasites. The text of this chapter is illustrated by several good figures, and by two plates, giving photographs of the blood of malarial patients, and photographs of the mosquitoes and the parasites found in their bodies. These beautiful microphotographs are by Professor Zettnow.

In the chapter on epidemiology, the various objections which have been raised against the mosquito theory are considered and refuted. It is shown that human malarial parasites are never found in other animals than man and the mosquitoes (anopheles), so that "the life cycle of the human malarial parasites is between man and anopheles only." This is the view of Koch, Ross, and nearly all modern pathologists. The period of incubation of malarial fevers—that is, the time between the mosquito bite and the supervention of symptoms—is, on an average, twelve days. The cases in which it is said to have been only a few hours are shown to be quite apocryphal.

A good chapter on symptomatology follows, illustrated by temperature charts, in which is marked the condition of the blood at the different stages of the fever. In this chapter Blackwater Fever is considered. The author holds that the exciting cause of this disease is almost invariably the administration of quinine; but a predisposition is necessary, and this arises in certain tropical and subtropical regions as a result of repeated attacks of malarial fever. This is the view of Koch, and differs from that of Plehn and other writers, who look on blackwater fever as a special form of malaria. In only a few cases are malarial parasites found in the blood, and they may be of either the large or small species. Blackwater fever may recur if quinine is given to a patient even after he has left the malarious country. The enormous destruction of corpuscles which takes place is shown by the fact that a single attack may reduce the hæmoglobin of the blood to 25 per cent. of the normal. Here we find also valuable sections on chronic malarial fever and malarial cachexia.

In the chapter on pathogenesis, many diagrammatic temperature charts are given, showing the relation of the different

stages of the fever with the different periods of the life-history of the parasite, and the course of the fever when the patient is infected with two or more parasites, causing quotidian, double or triple quartan, &c. The author holds with Koch, most of whose views he shares, that immunity to malaria can really be acquired.

The chapter on pathological anatomy is short, but that on diagnosis is very full, and gives in great detail the methods to be employed in examining the blood. It is also shown how, by an unsuitable method of taking the temperatures, very erroneous ideas may be arrived at as to the course of the fever and the nature of the case. In discussing the prognosis, the writer points out that by an examination of the blood we can not only determine the presence of the parasite, and its nature, but from the stage of development in which we find it we can predict the time at which the next attack will occur. While tertian and quartan fevers are exceedingly prone to relapse, but life is not seriously threatened by the paroxysm itself, it is this latter which is most to be dreaded in the tropical fever; while if in it the first attack is energetically treated, relapses are much less common than in the benign fevers.

In the final chapter, on treatment, full directions are given as to the administration of quinine. The doses must be large. The drug is best given in solution and by the stomach, and must be repeated even after the fever appears to be completely cured.

"The only rational and everywhere applicable method of individual prophylaxis is that advocated by R. Koch and Schröder"—that is, the regular taking of quinine, 15 grains every 10 or 11 days. The great difficulties in general prophylaxis by a compulsory use of quinine is fully recognised. Koch's method of stamping out the disease, by searching out all the cases, particularly the milder ones, and treating them with quinine so as to make them harmless, is described. The author is not very hopeful as to the results likely to be got by the destruction of the mosquito larvæ.

From what we have said it will be seen how full of information this book is. It cannot be too highly recommended to every medical man whose business may lead him into countries where malaria is prevalent, and those who wish to get in small compass a very complete account of the present condition

of science on this important subject cannot do better than read the volume.

The translators seem to have done their work well, and deserve our gratitude for making the book accessible to English readers.

Modern Methods in the Surgery of Paralysis. By A. H. TUBBY, M.S. Lond., F.R.C.S. Eng.; Surgeon to, and Lecturer on Clinical and Orthopædic Surgery, and in Charge of, the Orthopædic Department at Westminster Hospital; Senior Surgeon to the Evelina Hospital for Sick Children; Surgeon to the National Orthopædic Hospital; Consulting Surgeon to the Hospital for Hip Disease, Sevenoaks; Corresponding Member of the American Orthopædic Association; Chairman of the Council of the Society for the Study of Disease in Children, &c. And ROBERT JONES, F.R.C.S.E.; Honorary Surgeon to the Royal Southern Hospital, Liverpool; Hon. Surgeon, Liverpool County Hospital for the Chronic Diseases of Children; Corresponding Member of the American Orthopædic Association, &c. Illustrated by 93 figures, and 58 cases. London: Macmillan & Co., Ltd. 1903. Pp. 311.

IN the volume before us will be found set forth the experience of the authors of the most recent methods of treating the sequelæ of congenital and acquired forms of paralysis. The first section is devoted to a consideration of infantile paralysis or acute anterior poliomyelitis. The surgical treatment of this condition is directed towards: (a) the prevention of deformity; (b) correction of deformity.

The authors here state that if the rule that surgical treatment directed towards the prevention of deformity should be undertaken as soon as possible after the attack there would be no fixed deformities requiring tenotomy. "The patient should undergo for the first few days such medical treatment as offers a prospect of reducing the severity of the fever, and when that is over the case should remain under surgical care." The authors have but a poor opinion of that treatment so frequently adopted—viz., electricity, either in the early or later stage of the disease. They state that a combination of voluntary movements and massage is invariably more effective,

and this is their conclusion after an extensive trial of both methods. The backward condition of the surgical therapeutics of poliomyelitis is attributed to a serious error which is made, whereby practitioners fail to distinguish the loss of power caused by a destruction of motor cells from that due to muscular contraction. Their opinion is, that if a proper appreciation of the available therapeutic and mechanical agencies was obtained we should rarely, if ever, encounter any paralytic deformity. This is a statement which, coming from authors so well known for their experience in connection with orthopædic surgery, should make physicians, who generally see and treat poliomyelitis in its early stages at any rate, change their pessimistic for a more favourable prognosis. There seems to be no time limit after which treatment is unavailing, for they have successfully treated cases of over 20 years' standing. The element which has to be combated is the secondary change in the contracted stronger group of muscles. The procedure adopted by the authors is illustrated by diagrams. In Chapter II., dealing with infantile paralysis of the upper extremities and spine and its treatment, will be found a "new method of fixing the elbow-joint at a permanent right angle," when all the muscles governing the elbow are paralysed, while the muscles of the hand have escaped. Five cases have been operated upon by their new method with promise of considerable success. The operations of tendon transplantation and arthrodesis for various forms of paralysis are fully described and illustrated diagrammatically.

Section II. is devoted to a complete consideration of infantile spastic paralysis, or cerebral paralysis of childhood, and its treatment (mechanical, operative, and educational), as applied to the upper and lower extremities.

In the last section will be found described paralysis and deformities arising from injuries and diseases of nerves, and some degenerations of the spinal cord.

The book is one which shows the care and attention with which the authors have studied this subject of paralysis and the success which has attended their lines of treatment.

We can strongly recommend the study of the volume to the physician, who is most likely to see these cases in an early stage, and the surgeon alike.

YEAR-BOOKS FOR 1903.

1. *An Almanack for the Year of Our Lord 1904.* By JOSEPH WHITAKER, F.S.A. London: 12 Warwick-lane, Paternoster-row. 8vo. Pp. 792.
2. *Whitaker's Peerage for the Year 1904; being a Directory of Titled Persons.* London: J. Whitaker & Sons, 12 Warwick-lane, Paternoster-row, E.C. 8vo. Pp. 719.

If a member of the medical profession wishes to possess an encyclopædia in the smallest possible compass, let him possess himself of "Whitaker's Almanack." If he desires to know all about the social standing of his well-to-do or influential patients, let him procure a copy of "Whitaker's Peerage."

"Whitaker's Almanack" has now reached its thirty-sixth year of publication. It is a marvel of condensation of information on all sorts of subjects. From the preface we learn that a considerable amount of space in the present volume is devoted to the fiscal question. A political history of the world in 1902-03 has also been introduced. The depression in the price of Consolidated Stock has also suggested the insertion (at pages 188 and 189) of a tabular history of the National Debt by Mr. Herbert H. Bassett. A synopsis of the Motor Car Act, 1903, will be found at page 442. These are but a few of the many features in a really wonderful book.

"Whitaker's Peerage" appears for the eighth time. It has been carefully edited and brought up to date to November 20, 1903. The Editor will excuse us for pointing out that the abbreviations F.K.Q.C.P., M.K.Q.C.P., and L.K.Q.C.P., are practically obsolete, the proper designation of the Irish College of Physicians being the Royal College of Physicians of Ireland (F.R.C.P.I., &c.).

The After-Treatment of Operations: A Manual for Practitioners and House Surgeons. By P. LOCKHART MUMMERY, F.R.C.S. Eng., B.A., M.B., B.C. Cantab.; Demonstrator of Operative Surgery, St. George's Hospital, &c. London: Baillière, Tindall & Cox. 1903. Pp. 221

As the author in his preface states, it is surprising that a subject of such vast importance has had so little written about it. Those upon whom the treatment, subsequent to

operations, must of necessity frequently devolve, will welcome the present volume. The subject is clearly and concisely dealt with, nothing of importance being omitted. We can confidently recommend the book to every clinical clerk, resident pupil, house surgeon, or general practitioner, upon whose vigilance and care the successful outcome of many operations depends.

The author is to be congratulated on his successful accomplishment of the task he undertook.

Lectures on Massage and Electricity in the Treatment of Disease. By THOMAS STRETCH DOWSE, M.D. Fourth and Revised Edition. Bristol: John Wright & Co. 1903. Pp. xii and 454.

DR. DOWSE is more than ever convinced that the value of massage depends upon its influence in promoting respiration of the tissues; and that physical actions dissociate or help to dissociate the oxygen from the oxyhæmoglobin, and present the oxygen to the tissues in a form in which they can easily take it up. The author considers that nothing can be of greater interest to the masseur than information of this kind concerning oxidation and respiration of tissues. We hope this may be so, but feel more certain that it will be of interest to the medical man who orders massage. Dr. Dowse considers the best proof of the utility of massage is its power of restoring lost vigour to fatigued muscles.

There is an appendix on modern electrical methods for medical purposes. The X-rays are well and fully dealt with; but the Finsen chemical ray methods and electric light baths get short and not very clear treatment.

There is an excellent index, full and well arranged.

ERRATUM.

In Vol. CXVI., No. 383, Third Series, page 358, November, 1903, Dr. H. Campbell Thomson's name is incorrectly spelled "Thompson" in the review of his monograph on "Acute Dilatation of the Stomach."—[Ed.]

PART III.

SPECIAL REPORTS.

PROGRESS OF NEUROLOGY AND PSYCHIATRY.

By W. R. DAWSON, M.D., F.R.C.P.I.; Medical Superintendent, Farnham House, Finglas; Hon. Secretary, Irish Division of the Medico-Psychological Association.

Influence of General Anæsthesia on the Nerve-centres.—

Professor Georges Rolland*, of the Bordeaux Dental School, has studied the changes produced by somnoform on the nerve-cells, and has arrived at results in the main confirmatory of those obtained by Lugaro some years ago with other anæsthetics. The animals used were cats, rabbits, and guinea-pigs, and the chief methods of examination were those of Golgi and Nissl, and the *intra vitam* method of Ehrlich. After a short period of anæsthesia the dendrites of the cortical cells of the brain show a few moniliform thickenings, but the gemmules are mostly preserved. Very little change is seen in the staining of the cell-body. When the anæsthesia is prolonged, the dendrites show more varicosities, and the gemmules are absent in places; while the cell-body shrinks in size, sometimes appears broken up or irregular, and shows varying degrees of chromatolysis. In the cerebellum, however, the changes are much more pronounced, especially affecting the cells of Purkinje, which even after short anæsthesia show some deformity, with varicosity of the dendrites, loss of gemmules, and uneven staining of the chromophile bodies; while with longer anæsthesia the changes are very marked, the bodies of the cells being in this instance enlarged. These changes all appear to pass away after recovery from the anæsthetic. The author believes that the earliness of the period at which the cells of Purkinje are affected by somnoform (in contrast to other anæsthetics, which affect the cerebral cells first) shows the safety of this anæsthetic, as, according to Van Gehuchten's theory of the paths of sensation this would mean that the sense of pain is lost before the cerebral cortex is much involved.

* Brit. Dental Journal. October, 1903. P. 6:0.

Bacteria as the Cause of Insanity.—At the Swansea Annual Meeting of the British Medical Association, Dr. Ford Robertson^a read a paper in which he argued from work done by himself and his collaborators that general paralysis is produced by a toxæmia due to the excessive growth of bacteria in the nose, throat, and alimentary tract, and especially of a diphtheroid bacillus; the recognised causes, such as syphilis, merely acting by damaging the resisting mechanisms of the body. In 17 out of 20 cases the diphtheroid bacillus, supposed to be an attenuated form of the Klebs-Löffler bacillus, was found in cultures made from the nasal or intestinal contents, and in the remaining three it was also detected, by other means; while it was recovered from the brains of 4 out of 16 cases, and from the nose and throat of 9 out of 10 living general paralytics. Inoculation by the alimentary canal produced changes in the cerebral cells of rats.

Dr. Lewis Bruce^b read a paper at the last annual general meeting of the Medico-Psychological Association giving the results of his observations on the blood of patients suffering from katatonia. He concludes "that katatonia is an acute toxic disease with a definite onset and course," showing a hyperleucocytosis, which, at the termination of the acute stage, indicates a virulent toxæmia. In about 70 per cent. of the cases, even at the onset, the blood agglutinates a short streptococcus which was isolated from an acute case of the disease. This micro-organism produced somewhat similar symptoms in rabbits. Attempts at serum treatment have given no results in the second stage of the disease, but active immunisation was of advantage in the one acute case in which it was tried.

The Cause of Argyll-Robertson Pupil.—As the result of experimental observations on animals, L. Bach^c comes to the conclusion that the lesions to which reflex immobility of the pupil is due are situated, not, as usually stated, in the neighbourhood of the anterior corpora quadrigemina, but at the spinal end of the floor of the fourth ventricle. After decapitation, or division of the cervical cord, the light reaction is usually retained; but if the section involves a certain spot

^a British Medical Journal. 1903. II. P. 1065.

^b Journal of Mental Science. October, 1903. P. 618.

^c Neurologisches Centralblatt. 1903. Nr. 23. P. 1090.

near the tip of the calamus it is lost. Unilateral lesions of this spot produce reflex immobility of the opposite pupil. *Slight* stimulation of the medulla there causes myosis and reflex immobility, which are abolished by section of the medulla at a higher level. The results render it probable that there is a centre for the inhibition of the light-reflex near the median line at the tip of the calamus, as well as one for the stimuli which cause dilatation of the pupil. The occurrence of reflex immobility would then be caused by irritation of these centres, or by the destruction of paths by which their activity is regulated. The myosis is explained as due to the greater power of the sphincter iridis in states of complete muscular rest.

In the same paper Bach also states that he has only once found Haab's cortical pupillary reflex (reaction of the pupil to mental images of light and dark objects) out of a large number of cases, and he is not yet prepared to say what diagnostic and practical significance (if any) it possesses.

Multiple Personality.—An interesting case was recently described by Dr. Albert Wilson.* It is that of a girl who, after an attack of influenza at the age of twelve, followed by meningitis, suddenly passed into a state of double consciousness. In the eight years since she has shown, from time to time, no less than twelve such states, and now appears to have lost the normal state altogether. Each of these substages is quite irregular in its recurrence, each has its special characters and is ignorant of the others, and each commences where the previous attack of the same substage left off. Some, however, have only occurred once. In one substage she is maniacal; in another, cataleptic and childish, and writes backwards; in a third is partially paralysed, and is ignorant; in a fourth she is a deaf mute. In one stage she is refined and intelligent, and learnt French; in others, again, she is cruel and violent, or thievish, or erotic; and in one she is imbecile, blind, sometimes deaf, and paralysed, but can draw well, which she cannot do in her normal state or in any other substage. She has had to relearn in one substage things which she knew well in another. The case undoubtedly opens up a number of interesting questions.

The Treatment of Epilepsy.—Rudolph Balint^b publishes a

* *Journal of Mental Science.* October, 1903. P. 640.

^b *Neurologisches Centralblatt.* 1903. Nr. 8. P. 347.

further communication on the dietetic treatment of epilepsy. The diet consists of milk, butter, eggs, fruit, and bread made with sodium bromide instead of common salt ; and it has been found by almost all authorities to reduce the number and intensity of the fits. It can only be used for any considerable time, however, where the patients are not so wearied of it as to impair their nutrition ; and when this takes place it becomes necessary to introduce additional articles of diet, such as vegetables, sweets and meat—all, however, prepared with sodium bromide as a substitute for salt. The body-weight must, therefore, be watched. Great patience on the part of the physician, and great intelligence and will-power on that of the patient and those around him, are required for the successful carrying out of the treatment ; but, given these, there is no reason why it should not be done at home.

M. Lion,^a of Samara, Russia, has obtained further favourable results from the use of Professor Poehl's "Cerebrinum"—a substance extracted from the brain, and said to possess the formula $C_{70} H_{140} N_2 O_{13}$. He was led to try this on theoretical grounds, in the belief that a toxic process underlies the disease, and hoping that it would act as an antitoxin. The drug is administered in tablet form, 1.8 grammes being given in the morning, at first every third, then every second, and finally every day. This is combined with hypodermic injections every second or third day. In some cases the attacks have been found to cease from the first day, in others they are greatly diminished in number and intensity, while in a third class they become milder, but tend to increase in number. The mental state and general health are also said to improve. It is right to state, however, that all observers have not been equally fortunate. The drug can be used alone, or with bromides.

Another surgical cure has recently been reported^b in which removal of the three cervical and first thoracic ganglia of the sympathetic produced cessation of the attacks and allowed the patient to go about for some months as usual. Much longer observation would, however, be required before the case could be cited as an example of "radical cure" of epilepsy.

^a The Therapist. April, 1903. P. 59.

^b Medical Press and Circular. Nov. 25, 1903. P. 597.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

UNIVERSITY OF DUBLIN BIOLOGICAL ASSOCIATION.

Thursday, November 19, 1903.

T. PERCY KIRKPATRICK, M.D., outgoing President, in the Chair.

SURGICAL INTERVENTION IN SOME DISEASES OF THE STOMACH.

MR. R. C. B. MAUNSELL read his Presidential Address, which will be found at page 1.

MR. MAYO ROBSON (London) proposed the resolution—"That the best thanks of the Association are due to the President for his Address."

He said that he cordially agreed with the various propositions in the Address, except, perhaps, as regards the treatment of gastritis, in which there was room for difference of opinion, as some acute cases might require operation, and in many of the chronic cases, where medical treatment had failed, nothing but surgical treatment offered any chance of relief or cure.

With regard to Mr. Maunsell's treatment of perforation, he offered his sincere congratulations, and entirely agreed with the propositions for the treatment of the grave complications, both of perforation and hæmorrhage.

He had himself operated on between three and four hundred stomachs, which might, he considered, be separated conveniently into two periods—those up to 1896, and those since. In the former period he had had about sixty cases, and as many of the earlier cases were operated on when almost moribund, it naturally followed that the mortality was considerable: in fact, it had been equal to a rate of 36 per cent., which mortality apparently fully justified the postponement or even the avoidance of surgical methods; but from 1897 onwards there had been a very great change, both in operative technique and in the cases being handed over at an earlier stage. During this last period he had

operated on over 300 cases with a total mortality of 6.1 per cent., this series including every case operated on, both difficult and simple, malignant and non-malignant, thus showing the enormous improvement in the mortality from 36 per cent. before 1897 to 6 per cent. since, and altering very considerably our views on the treatment of stomach diseases after the cases have failed to yield to medical treatment.

The speaker said that the subject of gastric surgery might be conveniently considered under the two heads of organic and functional diseases. Acute and chronic cases of gastritis could not be left out, as acute cases tended to merge into chronic. Ultra-acute or phlegmonous gastritis cases were very rare; he had operated on two of them, with one recovery.

With regard to chronic cases, the greater number of those operated on were chronic gastritis with ulcer.

Until quite recently gastric ulcer, except for one or two of its complications, had been considered to be a subject for medical treatment from first to last; and in ordinary cases very few surgeons, certainly none in Great Britain, had raised any question as to the desirability of continuing this practice. The profession was, however, becoming awakened to the fact that gastric ulcer is not the trifling ailment that it was once considered to be, and that it should, from the first, be taken seriously, for it is in the early stages that medical treatment can be employed to the best advantage, and in the later stages that general treatment is so often followed by relapse or by serious complications.

One of the greatest medical authorities on the subject says that one-half or three-fourths of all cases will be cured by four or five weeks of treatment, but if not better in that time they will never be cured by medical treatment alone.

The most recent evidence we have concerning the results of medical treatment in cases of gastric ulcer is from the London Hospital, where Dr. Bulstrode collected and analysed the statistics of all the cases admitted for gastric ulcer from the beginning of 1897 to August, 1902. They were just 500 in number—98 men and 402 women. Out of this number, 48, nearly 10 per cent., died from peritonitis; 13, or 2.5 per cent., from hæmatemesis; and 28, 5.5 per cent., from other causes. Equally interesting is the fact that out of the 500 cases, 211, or 42 per cent., were cases of relapsing ulcer; and of these, 116 had relapsed once; 41, twice; 18, thrice; and 39, four or more times.

He said that in discussing the surgical treatment of ulcerated stomach we had to consider, not only the treatment of gastric ulcer itself, but also that of its complications and sequelæ, which were no less numerous than serious—acute perforation; hæmatemesis and melæna; cicatricial stenosis of the pylorus; hour-glass stomach; tumour of inflammatory origin; dilatation due to obstruction; fistula between the stomach and adjoining organs; spasm of the pylorus; persistent vomiting; perigastritis, ending in adhesions; local peritonitis, ending in suppuration; subphrenic abscess; abscess of the liver, pancreas, or spleen; atonic motor deficiency; severe gastralgia; tetany; stenosis of the cardiac orifice; acute or chronic pancreatitis; profound anæmia; phthisis; *ulcus carcinomatosum*, &c.

Einhorn accepts the rate of mortality as 50 per cent. for gastric ulcer treated medically, and Leube says that only one-half or three-fourths of all cases of gastric ulcer will be cured by even the most thorough medical treatment.

It was for us to show what we, as surgeons, could do for these 50 per cent., or to take Leube's smallest estimate, 25 per cent., of cases which must be left either to suffer intermittently or to become chronic invalids or to die unless surgery can do something for them.

For this purpose it would not be fair to take the surgical statistics of even three or four years ago, since the facts are very materially altered by the all-round improvement in operations on the stomach; and the contrast of 25 per cent. of deaths treated medically, and 5 per cent. in those treated surgically in the worst and most complicated cases, is so striking, that he felt it incumbent to urge most strongly, that although cases of gastric ulcer should first be submitted to medical treatment, yet if such treatment failed to cure in a reasonable time, or if relapses occurred on the resumption of solid food, then medical should give place to surgical treatment; for it was unfair to the surgeon to hand over to him almost moribund cases, and it was unjust to the patients to persist in dosing them with medicine, or otherwise treating palliatively cases that could be benefited or cured only by surgical means.

Before the abdomen is opened it is quite impossible in many cases to say what operation or operations will be required, and the surgeon must be prepared to adapt himself to circumstances on discovering the position of the ulcer and the conditions associ-

ated with it, especially as to the presence of adhesions and other complications.

Any one of the following operations, or a combination of them, may be called for in any individual case—Exploratory gastro-tomy; gastro-enterostomy to secure physiological rest to the stomach and relieve the hyperchlorhydria; or, in other cases, to short circuit a stenosis; excision of the ulcer; pylorectomy; pyloroplasty; gastroplasty; gastro-gastrostomy; gastrolisis; pylorodiosis.

Excision of the ulcer is an operation strongly advocated by some surgeons, and in certain cases it may be no more difficult or dangerous than a simple gastro-enterostomy—for instance, where the ulcer can be readily exposed, and where it is not adherent to any of the surrounding viscera, such as the pancreas. Under such circumstances he had excised a gastric ulcer on ten occasions, recovery having followed in each case. But where there is a difficulty in exposing the ulcer, and where it is adherent to other organs, he advised a gastro-enterostomy alone, as being simpler and safer, and, as a rule, quite as efficient. When it is borne in mind that ulcers are frequently multiple, and that although one may be excised, yet the undiscovered ulcer may be actually the one producing trouble, and when it is realised how difficult it is to reach and excise an ulcer close to the cardiac orifice, even if it be discovered, or how almost impossible it would be to remove some of the large chronic ulcers of the posterior stomach wall, so often adherent to the pancreas, he thought those who have had experience would agree with him as to the desirability of performing the less severe operation, even if it appeared to be less radical than the complete removal of the disease.

Even in cases where he had excised the ulcer, he considered it advisable also to perform gastro-enterostomy, in order to give the stomach rest and to secure healing of the stomach wound as well as any possible remaining ulcers.

Rydygier prefers excision of the ulcer to gastro-enterostomy, because he believes that carcinoma not infrequently develops in the scar of an old ulcer, but while accepting the fact that chronic ulcer predisposes to the development of cancer he thought it had yet to be proved that a soundly healed scar does.

Gastro-enterostomy, in the absence of special complications, was the operation to be relied on in the treatment of ulcer of

the stomach; it acted by securing physiological rest by means of drainage, thus allowing the ulcer to heal without being subjected to the irritation of acid secretion, accumulation of food, or frequent stomach movement. It also, while remedying the hyperchlorhydria, relieved pyloric spasm, and while preventing stagnation of fermenting fluids, materially diminished gastric dilatation. The posterior operation was the one he personally preferred, the junction of the posterior wall of the stomach with the first part of the jejunum being effected by two continuous sutures, with or without a decalcified bone bobbin. The use of a bone bobbin not only secured an ample and immediately patent opening between the two viscera for the passage of the stomach contents, but protected the line of union from irritation.

The whole operation could be easily completed in half an hour, and it might even be done in half the time. An extensive experience with the posterior operation had been favourable, not only in the rate of recovery of the patients, but in the smoothness of the recovery, many of the patients recovering without even once vomiting, and only very rarely had he seen regurgitant vomiting of bile, which in the anterior operation was much more frequently seen, and at times became serious or even led to a fatal issue. Up to the end of last year he had performed the posterior operation on 103 patients, with 4 deaths, or an average mortality of 3.8 per cent., and this included every patient submitted to this operation, without any selection, the greater number of the patients being extremely ill at the time of operation.

He went on to say that the most brilliant results occur where there is pyloric stenosis, due to chronic ulcer, and in those cases where the ulcer has led to the formation of a well-marked tumour, whether at the pylorus or in the body of the stomach, as also in hour-glass contraction, and in all cases where the ulceration has produced well marked and obvious damage to the stomach walls. The least satisfactory cases are those in which the nervous symptoms have predominated, and where the pylorus is patent. In three of the latter class of cases he had been much disappointed with the ultimate issue, the patients having made a good recovery from the operation, but having complained subsequently of pain after food, or having had occasional vomiting, anorexia, or other untoward symptoms, such as were present before the operation.

He remarked that *pyloroplasty* as a curative measure had certain very definite limitations, though it could be performed rapidly and with very little exposure of viscera. If the pylorus were stenosed, free from extensive adhesions, easily drawn forward, and not actively ulcerating, it was a simple and short operation, and in quite a number of cases of both gastric and pyloric ulcer he had found it to answer well.

Although in his earlier operations on the stomach he thought favourably of *pyloroplasty*, yet, along with other surgeons, he had had reason to modify his opinion of the operation, not only on account of contraction of the new orifice, but from adhesions forming over the site of the sutured pylorus, which have a tendency to anchor it, and to interfere with the stomach functions, although the canal may remain patent. He, therefore, now performed *gastro-enterostomy* by preference. It still remained to be seen whether or no Finny's operation will yield better permanent results.

So far as the operation itself is concerned, it was a simple one, for out of 23 cases of *pyloroplasty* that he had himself performed for simple ulcer since 1896 there had been no fatality.

Gastroplasty is an operation that he had successfully employed in a number of cases of chronic ulcer leading to hour-glass stomach. It consists in making a longitudinal incision through the strictured part of the stomach, and bringing the edges of the wound together transversely, thus obliterating the stricture.

He had operated on 19 cases of hour-glass stomach due to chronic ulcer, with 17 recoveries.

Gastrolysis.—Adhesions of the stomach to adjoining organs are so common in chronic stomach ulceration, that *gastrolysis*, or the detaching or otherwise treating bands and short adhesions to adjoining viscera, or to the abdominal wall, is performed in by far the greater number of cases. Such adhesions are frequently only the remnants of ulcers that have healed; at other times they have been left by perforation of the stomach wall by an ulcer, from the direful consequence of which they have saved the patient. In many cases they give rise to symptoms resembling ulcer, though the adhesions may be due to causes, such as gall-stones, outside the stomach itself; in such cases the operation of *gastrolysis* may be entirely curative. He had performed *gastrolysis* in a large number of cases—over a hundred—all of which, when this was the only procedure required, recovered;

in others the gastrolisis only formed a minor part of the operation, and gastro-enterostomy, pyloroplasty, cholecystotomy, &c., had to be done at the same time, the stomach dilatation being a secondary affection.

He remarked that *pylorodiosis*, by which name is understood the operation of stretching the pyloric sphincter, either by means of the fingers invaginating the stomach wall, when it is known as "Hahn's operation," or by digital or instrumental stretching after having made an opening into the stomach, when it is known as "Loreta's operation," was a method of little practical value in the treatment of ulcer, and in some of the cases where he had performed the operation, though the immediate results were good, relapses subsequently occurred.

Indications and contra-indications for Operation.—Having shown that there were many cases in which after the failure of medical treatment surgery is capable not only of obtaining operative success, but genuine cure, and having mentioned the operative means by which the surgeon might hope to bring about such cures, Mr. Mayo Robson thought that he might now profitably consider under what circumstances the surgeon might hope to do his best work. He need not speak of acute perforation with general peritonitis, nor of chronic perforation leading to abscess, subphrenic or otherwise, for in these cases there was no room for two opinions: the cases were surgical, and surgical alone.

Although medical treatment, lavage and careful dieting might for a time do good in pyloric stenosis consequent on ulcer, he had seen and operated on many cases where this treatment had been carried on far too long, the patients being handed over to the surgeon in a state of profound exhaustion. Could they have been seen at an earlier period very little risk would have attended operation, and there was no reason why these cases should have any mortality. He could point to a considerable number of such patients now living useful and active lives who had for years been existing on the verge of starvation. In these cases, therefore, he urged that surgical treatment should be sought much earlier. The same remark applied to hour-glass contraction of the stomach, which, when advanced, produced symptoms almost like those of pyloric stenosis. It was quite clear here that medicine could do no permanent good, but that surgery held out great prospects of success.

In cases of perigastritis ending in pyloric adhesions, or in adhesions of the stomach to the abdominal wall, which so often complicate ulcer of the stomach and lead to severe and persistent gastralgia, made worse on movement, to inability to take food, or to vomiting after it had been taken, and to other untoward symptoms, it was quite clear that general treatment could do no permanent good, for the trouble was mechanical. These cases should be treated surgically, for the operation of gastrolisis, as he had shown, could be performed with very small risk, and even if, as was necessary in some of the cases with extensive adhesions, gastro-enterostomy had to be performed, the risk was well under 5 per cent.

Whatever might be our views with regard to acute hæmorrhage threatening life, he thought that very few present, whether physicians or surgeons, could have any doubt about so-called chronic hæmorrhages, which are repeated over and over again, and which ultimately end in profound anæmia. These cases ought to be operated on before the bloodlessness is carried to such a state that operative treatment becomes dangerous.

He would not express his own opinion with regard to acute hæmorrhage too strongly, as he had already given his views at considerable length before the London Medical Society. He thought, however, one should distinguish between the hæmorrhage that occurred in young anæmic girls, and which was described originally by Dr. Donald Hood (Med. Soc. of London, Feb. 15, 1892), and afterwards by Dr. Hale White, which cases usually ended in recovery, and the violent hæmorrhage that accompanies gastric and duodenal ulcer, which is usually repeated, and in a considerable proportion of cases has ended fatally. His own views were—that these latter cases, when recurrent, required operation for the arrest of the bleeding, and it could be undertaken, as he had shown, with great probability of success.

In another class of cases, where chronic ulcer is associated with tumour which simulates cancer, and where, even when the abdomen is opened, it is hard to tell whether the disease be simple or malignant, gastro-enterostomy might be completely curative, as he had amply proved by a series of cases, some of which were published in the *British Medical Journal*, April 25, 1903, when considering the treatment of cancer of the stomach. Several of these cases now absolutely well and in perfect health had been condemned as hopeless.

But when considering operative intervention in cases of rebellious dyspepsia, in hyperchlorhydria, in nervous dyspepsia, in atonic dilatation of the stomach, in gastralgia, and in other functional diseases, the surgeon was treading on dangerous ground, for he had to consider not only the risk to life in cases that would not end fatally, but also the possibility or even the probability of relapse. The want of clinical success, to say nothing of the disappointment to the patient which such operations, if indiscriminately performed, would probably show, would be likely to bring discredit on a branch of surgery which is making sure and steady progress, and which is likely to have still greater triumphs in store.

As the result of experience in some of these cases, both in his own practice and in that of other surgeons, he urged most strongly that every case of suspected ulcer of the stomach should first be submitted to thorough medical treatment, and only after failure of therapeutic measures should the question of surgical interference be entertained.

But, even with the greatest care, there might still be cases of failure in diagnosis, and an exploratory operation advised. In such cases, if the physician feels that medical treatment has been carried out for a sufficient length of time without success and that he is powerless to do more, recourse might be had to an exploratory operation ; but, even if after exposure of the stomach no evidence of organic disease is obtained, it might be wise to abstain from further intervention ; for it must be borne in mind that nervous troubles frequently manifest themselves in the shape of gastric ailments, and that in some cases gastric ulcers, though completely cured by medical treatment, might have initiated a state of neurasthenia, leading to a persistence of the original symptoms, which could not reasonably be expected to yield to surgical treatment except through its effect on the imagination.

It was thus seen that while he advocated most strongly the surgical treatment of ulcer of the stomach, and many of its complications in properly selected cases, he felt that the surgeon and physician should in all cases work together, and while, on the one hand, a medical colleague should not persist in treating cases of organic disease of the stomach so long that when handed over to the surgeon they are almost or quite unfit for operation, on the other hand it behoved the surgeon to be careful not to take

in hand any case in which medical treatment ought to have a fair trial before he interferes.

SIR CHARLES BALL, in seconding the resolution, spoke of the great advance which had been made in recent years in the surgical treatment of the stomach, and compared it to the advances made in almost all other branches of surgery. For example, in the treatment of strangulated hernia, which used to be treated by vigorous attempts at reduction by taxis, then hot bath, taxis again, and so on until the patient, when eventually operated on, usually died. Gradually it was seen that if the constricting band was relieved by operation sufficiently early recovery was certain. It was the same in the evolution of stomach surgery.

In the first period in which stomachs were operated on, the cases were those in which it was obvious the patient had only a short time to live, they were frequently starved, &c., and no operation could be successful; but as the advantage of early operation was proved, it became the custom to operate earlier, and the result of this has been to reduce the mortality to a small amount, and it would probably be still further reduced. There were some points in the President's Address to which he would direct attention, and the first was the importance of early diagnosis of perforation of the stomach. Most surgeons saw these cases in a condition in which it was futile to operate, and he thought that if greater attention were paid to the symptoms—not the text-book symptoms—of early onset of perforation, it would enable us to have a more brilliant record in the treatment of these cases. Then, as regards the flushing out of the peritoneum, he said he long held the idea that, if there was a limited extravasation shortly after perforation, then flushing was unwise, and he had simply swabbed with sponges, wet with saline solution, but in his recent cases he had had excellent results from flushing. As to comparison between pyloroplasty and posterior gastro-enterostomy, he said that the latter is no doubt generally the better operation, as there was greater certainty of being able to do it well, but pyloroplasty has its place in surgery very distinctly. He said there were cases of pyloroplasty in which it was necessary to do gastro-enterostomy afterwards, but he knew of at least one case in which the converse was the case.

DR. EDWARD TAYLOR, having proposed that the Dublin University Biological Association was worthy of the support of all students of medicine in Trinity College, said that

he considered when the President outlined indications for surgical treatment he was pleading for a special operation—gastro-intestinal anastomosis. The opinion was gaining ground of the value of surgical treatment in chronic inflammatory diseases of the stomach. He had himself consistently carried out the posterior operation. As regards treatment of complications, he thought the President was at his best in treatment of perforation. The treatment of gastric ulcer consisted in the carrying out of a distinct policy—*i.e.*, free flushing of the peritoneum, and the opening up and removal of the contents of every recess. He considered that there was no harm in allowing the small intestine to escape from the wound during the flushing, and that it rather facilitated it.

DR. LUMSDEN, in seconding the resolution, spoke of the good effects of medical treatment of these cases in their early stages, and the carrying out of complete physiological rest. This treatment, with rectal alimentation for a few days, and the gradual return to feeding by the mouth, was a matter of daily experience, but he agreed that there came a time when many of these cases should be handed over to the surgeon, and thought it was positively criminal not to do so.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on December 15th, 1903, the following gentlemen, having passed the requisite examinations, were admitted Fellows of the College:—Sydney Herbert Allen, L.R.C.S.E., Melbourne, Australia; Arthur Alison Bradburne, L.R.C.S.E., Buxton, Derbyshire; Arthur Bernard Cridland, M.R.C.S., Eng., L.R.C.P., Lond., Wolverhampton; Daniel Randolph Gonsalves, L.R.C.S.E., Ootacamund, India; William Colin MacKenzie, M.D., B.S., Melbourne; John Macmillan, M.B., C.M., D.Sc., F.R.C.P.E., Edinburgh; James Hutchinson Pestell, L.R.C.S.E., Victoria, Australia; Richard Staward, L.R.C.S.E., Springburn, Glasgow; and Harry Findlater Wilkin, L.R.C.S.E., Wickhambrook, near Newmarket. At the same meeting Dr. Peter Hume Maclaren and Dr. James Ritchie, were elected representatives of the College on the Board of the Royal Infirmary for the ensuing year, and Mr. Henry Wade, M.B., F.R.C.S.E., was elected Conservator of the Museum.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR THORNLEY STOKER, M.D., F.R.C.S.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF PATHOLOGY.

President—HENRY C. EARL, M.D., F.R.C.P.I.
Secretary—ARTHUR H. WHITE, F.R.C.S.I.

Friday, November 6, 1903.

The PRESIDENT in the Chair.

THE PRESIDENT delivered an Address on the Cytology of Serous and Sero-fibrinous Effusions. [It will be found at page 409 of Vol. CXVI. (December, 1903).]

Orbital Tumour.

MR. ARTHUR BENSON and DR. LANGFORD SYMES showed a tumour removed from the apex of the orbit of a woman, aged forty-eight.

Three and a half years previously she had received a blow in the eye from the head of a calf, which she was feeding. Two months after the injury the sight began to fail, and at the time of the operation vision was wholly gone from atrophy of the optic nerve. The eye was proptosed and very defective in motion. The growth, which entirely surrounded the nerve, occupied the entire apex of the orbit, and the globe sat in a depression on its anterior surface, but was quite free from attachment to it in any place.

The very slow growth of the tumour and its very slight malignancy were remarkable, but the point of greatest clinical interest was the loud respiratory bruit, which could be heard with a stethoscope placed over the globe, both inspiration and expiration being easily heard. The bruit was also to be heard, though to a much less degree, over the sound eye. There was no vascular bruit to be heard. Four months had passed since the operation, and there was no recurrence. Dr. Symes

examined the specimen, and found the tumour to belong apparently to the sarcomata, but with a peculiar locular or alveolar arrangement.

MR. STORY said that the curious respiratory murmur heard over the affected orbit and its walls was to him the most interesting and obscure part of the case.

DR. TRAVERS SMITH and PROFESSOR O'SULLIVAN also spoke, and DRS. BENSON and SYMES replied.

Aneurysms of Cerebral Arteries.

THE PRESIDENT exhibited a brain with small aneurysms on various cerebral arteries.

The Section then adjourned.

Friday, December 4, 1903.

THE PRESIDENT in the Chair.

Ætiology of Leukæmia.

DR. T. G. MOORHEAD read a preliminary account of some investigations which he had been making into the ætiology of leukæmia. He said that he had prepared a series of extracts from glands obtained *post-mortem*, from a case of lymphatic leukæmia, and claimed to have produced leukæmic changes in rabbits by the injection of one of these (sterilised) extracts. The changes found consisted in enlargement of the spleen and of several groups of lymph glands, and in the red marrow excessive development of nucleated red blood corpuscles. Quantitative and qualitative changes were also observed in the white cells of the blood. Injections of a similar extract prepared from normal human lymph glands did not produce any change in the hæmopoietic tissues of rabbits. The extract from the morbid glands caused a pronounced fall in blood pressure, while the similar extract from normal glands had no such effect. Chemical analysis also tended to show that the morbid glands contained some specific substance (not as yet isolated), which he believed might prove to be the specific toxin of the disease.

PROFESSOR MCWEENY asked whether Dr. Moorhead had used glands from myelogenic or lymphatic leukæmia, and said that inasmuch as their pathology was different, owing to the difference in the nature of the chemiotactically active substance

in each case, this was a matter of much importance. He thought the statement that the acidophiles were 65 per cent. in the experimental animal required extension as regards the coarse or fine characters of the granules. He suggested that Dr. Moorhead might in his future work inclose the material in a capsule of elder pith, sponge, or the like, and so introduce it into the peritoneal cavity with the object of determining what classes of leucocytes were chemiotactically attracted. He concluded by congratulating Dr. Moorhead on the original and important character of his work.

THE SECRETARY (Professor White) hoped that Dr. Moorhead would continue his valuable research, and expressed the opinion that much of the effects described were probably due to the excessive amount of nucleo-proteid to be got from the glands.

PROFESSOR SCOTT joined in the congratulations on the value of the paper. He thought that, so far from thinking that the various forms of leukæmia were different, the principle of cellular intoxication might fairly be extended from the lymphatic lesions to other very cellular conditions, as sarcoma or cancer, which are also associated with blood changes, and that some common condition would be found underlying all these.

PROFESSOR O'SULLIVAN believed that chemiotaxis would not account for the cell proliferation in lymphatic leukæmia. He hoped that those present who might have an opportunity of obtaining material which would be of use for Dr. Moorhead's researches would help him, as the want of material was a great obstacle to research in Dublin.

DRS. TRAVERS SMITH and PARSONS, and the PRESIDENT, also spoke, and DR. MOORHEAD replied.

Tumour in Skin of Breast.

DR. W. S. HAUGHTON showed a tumour and its section removed from pectoral skin. This tumour clinically resembled a simple inflammation, but under the microscope revealed itself a sarcoma of deeper layers of skin, containing giant cells, small round cells, and some spindle cells.

Cancer of Rectum.

DR. HAUGHTON also showed a rectum, pelvic colon, and part of iliac colon removed for carcinoma recti by the double method of laparotomy and pansacral incision six weeks ago. Patient going on well. The interest in the surgical method lay in the

examination of the liver and pelvic and mesenteric glands before removal, as well as the mechanical points of technique, such as arrest of hæmorrhage from supra-hæmorrhoidal and middle sacral arteries and length of iliac meso-colon for anastomosis to anus, which was carried out. The section showed well the structure of the tumour to be a typical adeno-carcinoma of rectum extending around the lumen of the gut for more than three inches in length, without infiltration of perirectal tissues or glands, a point much to be appreciated by patient and surgeon.

Abscess of the Brain.

DR. ALFRED PARSONS showed specimens removed from a man, aged twenty, who was admitted to the Royal City of Dublin Hospital on September 23rd, suffering from Jacksonian epilepsy. The patient, who had been previously in good health, with the exception of a chronic cough, was suddenly seized with a convulsion, and was carried into hospital during the attack. He had in all some seven or eight attacks on the day of admission. It was noticed that the lower half of the left side of his face and the left arm from the elbow down were paralysed. He had, however, no loss of power in his left leg, but the reflexes were exaggerated. The paralysis gradually increased till he had complete left hemiplegia with greatly-increased deep reflexes. He suffered also from violent paroxysms of coughing, accompanied by the most foetid expectoration, which poured out from his mouth and nose. Physical examination revealed the presence of bronchiectasis in the lower lobe of the left lung. On September 29th Mr. Benson found the eyes perfectly normal, but three days later detected the presence of definite double optic neuritis. The headache became violent, the patient shouting out, "Oh, my head, my head," and saying the pain was like a chisel going through the back of his head. As there was no ear disease present, a diagnosis of intracranial abscess near the Rolandic area, secondary to chronic pulmonary suppuration, was made, and Mr. Johnston was asked to trephine the patient over the arm centre and explore for an abscess. This he did, but found no pus. At the autopsy the lower lobe of the left lung was found to consist of numerous bronchiectatic cavities filled with pus, and on examining the brain after hardening there was a large abscess filled with greenish pus lying directly underneath the arm centre, not more than half an inch from the cortex. The

needle used in exploring must have entered the abscess cavity, but before doing so had probably become plugged with brain tissue.

Cancer of Breast with Secondary Growths in Ovaries.

DR. J. T. WIGHAM showed a cancer of the breast, and various internal organs secondarily affected, with sections. The cancer was of the ordinary type of scirrhus, and was well marked, the interest in the case lying in the route by which the disease had spread to the internal organs. The breast was removed surgically, and some two months afterwards the patient showed signs of secondary growths internally, and rapidly died. As the *post-mortem* was not made until some three months after the operation, the connection between the breast and the pleura could not be established with any certainty, but beyond that it was obvious that the greater part of the internal organs affected had formed secondary growths by direct continuity. Cancer nodules could be discovered in the liver and under the pleura, pericardium and endocardium, and sections showed the growth pushing through the heart fibres between the two last. Similar growths were also found in both ovaries and along the course of the Fallopian tubes, while the peritoneum was quite free, and no other cancer masses were discovered below the level of the liver. This curious connection between the breast and the ovaries had been remarked before, but is nevertheless interesting.

The Section then adjourned.

TOXIC ACTIONS OF UROTROPIN.

THE toxic action of urotropin, as described by Coleman in *Med. News*, is shown in some individuals, even though given in small doses. The symptoms of toxicity shown are irritation of the stomach; diarrhoea and abdominal pain; measles-like rash; headache and ringing in the ears; renal irritation, sometimes accompanied by albuminuria. The bladder sometimes presents toxic effects, strangury being the most common symptom. Hæmaturia and hæmoglobinuria may occur. The toxic symptoms generally disappear within a few days after the drug is withdrawn. The author concludes that these toxic symptoms are caused either by a special susceptibility to the action of the formaldehyd or by interference with its elimination or by an unusual liberation of formaldehyd in the system.—*Jour. of Amer. Med. Association*, October 31, 1903.

CORK MEDICAL AND SURGICAL SOCIETY.

President—J. COTTER, M.D., F.R.C.S.I.

Secretary—RICHARD P. CROSBIE, M.A., M.B., R.U.I.

SESSION, 1903-4.

OPENING MEETING, *Wednesday, October 28, 1903.*

The PRESIDENT in the Chair.

President's Address.

THE PRESIDENT delivered his Inaugural Address, taking as his subject "A Plea for Earlier Operation in Certain Abdominal Cases." He deprecated the tardiness often showed by physicians in summoning surgical aid in abdominal cases, and maintained that as soon as a grave abdominal lesion of an acute nature was diagnosed the services of the surgeon should be requisitioned. The non-observance of this rule had led to the loss of many valuable lives, and now that the dangers of abdominal section had been reduced within such narrow limits, the continuation of ordinary medicinal treatment, in cases which did not quickly respond to it, was inadvisable, and the question of operation should be boldly faced at once. The continued administration of opium in these cases was especially to be condemned, as obscuring the symptoms of the disease, and giving rise to a false sense of security. It was especially in cases of appendicitis that these questions were likely to arise, but, fortunately, there was now almost a consensus of opinion as to the proper mode of treatment in these cases. In all cases, except the mildest, an operation should be undertaken, and even in mild cases an operation should be performed during a quiescent period, if a diagnosis of appendicitis had been confidently made.

Wednesday, November 11, 1903.

The PRESIDENT in the Chair.

Tricuspid Stenosis.

DR. W. ASHLEY CUMMINS showed viscera from a case of heart disease in a woman, aged thirty. The aortic and mitral valves were thickened and puckered, and almost cartilaginous in hardness, but the most remarkable feature was extreme stenosis of the tricuspid orifice, which barely admitted the tip of the little finger. The lungs showed hæmorrhagic infarcts, and the "nutmeg" condition of the liver was marked.

Myoma Uteri.

DR. C. YELVERTON PEARSON showed a myomatous uterus which he had removed from a woman, aged fifty, by supra-vaginal hysterectomy.

Removal of Gall-stone.

DR. C. YELVERTON PEARSON also read notes of a successful case of removal of a large gall-stone from the common bile duct for persistent jaundice. The jaundice had lasted six months, and completely disappeared after the operation.

Acute Intestinal Obstruction.

DR. H. R. TOWNSEND read notes of a case of acute obstruction in a woman, aged twenty-eight, in which the obstruction was due to a coil of the small intestine being dragged into the pelvis and kinked by adhesion to the fimbriated extremity of one of the Fallopian tubes. The patient made a good recovery.

SWEATING OF THE FEET.

THE following combinations are recommended by *Merck's Archives* in excessive perspiration of the feet :—

R.	Acidi salicylici	gr. xv	1
	Tannoformi	3iss	6
	Pulv. orris	3i	4
	Pulv. talci	3iii	12
M.	Ft. pulvis. Sig. : Apply locally ; or :		
R.	Formaldehydi	3iv	15
	Petrolati	3ii	8
	Lanolini	3iv	15
M.	Ft. unguentum. Sig. : Apply freely at night ; or :		
R.	Pulv. acidi borici	3i	4
	Pulv. amyli	3iii	12
	Tannoformi	3ii	8
	Olei caryophylli	gtt. i	06
	Olei lavendulæ	gtt. iii	20

M. Sig. : Use as a dusting powder.

In axillary bromidrosis the following is recommended :—

R.	Creolini	3i	4
	Ext. violarum	3iv	15
	Alcoholis deod.	3iii	90

M. Sig. : Wash the armpits with warm water followed by an application of the lotion.—*Jour. of Amer. Med. Association*, October 31, 1903.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Univ. Dubl. ;

F.R.C.P.I. ; F.R. Met. Soc. ;

Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, December 5, 1903.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending December 5, 1903, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 24.0 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, December 5, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Nov. 14	Nov. 21	Nov. 28	Dec. 5			Nov. 14	Nov. 21	Nov. 28	Dec. 5	
22 Town Districts	19.1	20.3	19.6	24.0	21.8	Lisburn -	18.2	22.7	18.2	22.7	20.5
Armagh -	13.7	13.7	20.6	6.9	13.7	Londonderry	22.7	6.3	11.3	22.7	15.8
Ballymena	14.4	9.6	14.4	23.9	15.6	Lurgan -	17.7	13.3	22.1	8.9	15.5
Belfast -	16.4	20.1	17.4	23.7	19.4	Newry -	16.8	16.8	16.8	12.6	15.8
Clonmel -	5.1	20.5	30.8	30.8	21.8	Newtown- ards	17.2	51.5	40.1	11.4	30.1
Cork -	24.7	15.1	10.3	15.8	16.5	Portadown -	10.3	41.3	46.5	31.0	32.3
Drogheda -	16.3	20.4	12.3	20.4	17.4	Queenstown	6.6	26.4	13.2	19.8	16.5
Dublin (Reg. Area)	20.9	24.5	24.8	27.5	24.4	Sligo -	9.6	4.8	38.4	28.8	20.4
Dundalk -	47.9	12.0	12.0	23.9	24.0	Tralee -	26.4	0.0	10.6	5.3	10.6
Galway -	19.4	7.8	3.9	19.4	12.6	Waterford -	15.6	21.4	7.8	29.2	18.5
Kilkenny -	39.3	14.7	19.7	24.6	24.6	Wexford -	18.7	14.0	28.0	18.7	19.9
Limerick -	13.7	17.8	19.1	26.0	19.2						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, December 5, were equal to an annual rate of 1.7 per 1,000—the rates varying from 0.0 in sixteen of the districts to 5.0 in Londonderry—the 18 deaths from all causes registered in that district including 3 from whooping-cough and one from diarrhoea. The 163 deaths from all causes registered in Belfast include one from scarlet fever, 10 from whooping-cough, one from diphtheria, 3 from enteric fever, and one from diarrhoea.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area now consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, December 5, amounted to 194—97 boys and 97 girls; and the deaths to 207—97 males and 110 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 28.5 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the area, the rate was 27.5 per 1,000. During the forty-eight weeks ending with Saturday, December 5, the death-rate averaged 23.7, and was 2.2 below the mean rate for the corresponding portions of the ten years 1893–1902.

Two deaths from scarlet fever, one death from typhus fever, 2 deaths from influenza, 5 from whooping-cough, 2 from diphtheria, one death from “fever,” 2 deaths from enteric fever, and 2 deaths from infective endocarditis were registered. Deaths from whooping-cough in the 4 weeks preceding had been 0, 3, 2, and 3 respectively, and deaths from enteric fever had been 1, 3, 2, and 5 respectively. There was not one death from small-pox, measles, or diarrhoeal diseases.

Thirty-one deaths attributed to tuberculous disease comprise 5 deaths from tubercular phthisis, 18 deaths from *phthisis*, 2 deaths from tubercular meningitis, one death from *tabes mesenterica*, and 5 deaths from other forms of the disease.

Six deaths were due to carcinoma and 5 deaths were attributed to *cancer, malignant disease*.

Of 22 deaths from diseases of the nervous system 13 were (of children under 5 years of age) from *convulsions*, 12 being under one year of age.

There were 33 deaths from diseases of the heart and blood-vessels.

The total number (47) of deaths from diseases of the respiratory system represent an annual rate of 6.5 per 1,000 of the population of the area, and is equal to the average rate for the corresponding period of the past 10 years. There were included in the total (47) 36 deaths from bronchitis, 8 deaths from broncho-pneumonia, and 2 deaths from *pneumonia*.

Four deaths from accidental violence include one from railway accident and one from drowning.

In 8 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 7 children under one year old and the death of one person aged 70 years.

Sixty-six of the persons whose deaths were registered during the week ended December 5 were under 5 years of age (44 being infants under one year, of whom 6 were under one month old), and 57 were aged 60 years and upwards, including 19 persons aged 70 and upwards, of whom 9 were octogenarians.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast:—

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended December 5, 1903, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	Nov. 14	-	-	-	14	-	-	2	-	-	17	12	-	-	-	45
	Nov. 21	-	4	1	17	1	-	4	-	2	12	10	-	-	-	51
	Nov. 28	-	2	-	6	2	-	3	1	1	17	19	-	-	-	51
	Dec. 5	-	4	1	15	1	-	4	-	2	11	14	-	-	-	52
Rathmines and Rathgar Urban District	Nov. 14	-	-	-	3	-	-	-	-	-	1	-	-	-	-	4
	Nov. 21	-	-	-	5	-	-	-	-	-	-	1	-	-	-	6
	Nov. 28	-	-	-	13	-	-	-	-	-	-	-	-	-	-	13
	Dec. 5	-	-	-	1	-	-	-	-	-	2	-	-	-	-	3
Pembroke Urban District	Nov. 14	-	-	-	1	-	-	-	-	-	1	1	-	1	1	5
	Nov. 21	-	-	-	4	-	-	-	-	-	-	-	-	1	-	5
	Nov. 28	-	-	1	2	-	-	-	-	-	-	-	-	2	-	5
	Dec. 5	-	-	-	5	-	-	-	-	1	1	-	-	2	-	9
Blackrock Urban District	Nov. 14	-	-	-	4	-	-	-	-	-	3	-	-	-	-	7
	Nov. 21	-	-	-	1	-	-	-	-	-	1	-	-	-	-	2
	Nov. 28	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Dec. 5	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
Kingstown Urban District	Nov. 14	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	Nov. 21	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Nov. 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dec. 5	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
City of Belfast	Nov. 14	1	-	-	16	-	-	2	2	15	19	13	-	-	-	68
	Nov. 21	1	-	-	19	3	-	3	-	6	11	7	1	-	-	51
	Nov. 28	-	-	-	17	1	-	1	1	3	15	9	-	-	-	47
	Dec. 5	2	-	-	14	-	-	6	1	6	15	9	2	-	-	55

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, December 5, 1903, one case of measles was admitted to hospital, one patient was discharged, and 5 patients remained under treatment at its close.

Nineteen cases of scarlet fever were admitted to hospital, 9 cases were discharged, there were 2 deaths, and 104 cases remained under treatment at the close of the week. This number is exclusive of 16 patients still under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital Dublin.

One case of typhus fever was admitted to hospital, 2 patients were discharged, one died, and 2 cases remained under treatment at the close of the week.

Two cases of diphtheria were admitted to hospital, 2 were discharged, there was one death, and 12 cases remained under treatment at the close of the week.

Nineteen cases of enteric fever were admitted to hospital, 13 cases were discharged, and 76 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 3 cases of pneumonia were admitted to hospital, 6 patients were discharged, and 16 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, December 5, in 76 large English towns, including London (in which the rate was 17.8), was equal to an average annual death-rate of 18.6 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 20.0 per 1,000, the rate for Glasgow being 21.4, and for Edinburgh 17.2.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of November, 1903.

Mean Height of Barometer, - - -	30.047 inches.
Maximal Height of Barometer (5th, at 9 a.m.),	30.626 „
Minimal Height of Barometer (28th, at 9 a.m.),	29.144 „
Mean Dry-bulb Temperature, - - -	44.0°.
Mean Wet-bulb Temperature, - - -	42.7°.
Mean Dew-point Temperature, - - -	41.0°.
Mean Elastic Force (Tension of Aqueous Vapour, .262 inch.	
Mean Humidity, - - - - -	89.6 per cent.
Highest Temperature in Shade (on 12th), -	60.0°.
Lowest Temperature in Shade (on 30th), -	29.2°.
Lowest Temperature on Grass (Radiation) (30th),	26.2°.
Mean Amount of Cloud, - - - - -	56.5 per cent.
Rainfall (on 16 days), - - - - -	2.133 inches.
Greatest Daily Rainfall (on 28th), - - -	.615 inch.
General Directions of Wind, - - - - -	W., S.W., N.W.

Remarks.

November proved an average month as regards temperature, whereas atmospheric pressure was in excess so far as Dublin and its neighbourhood are concerned. In the course

of the first week a large anticyclone, in which the barometer stood above 30.6 inches, drifted slowly eastwards from Ireland to Central Europe. Low temperature, calms and fogs accompanied its centre. A second, though less intense, anticyclone arrived over Ireland from the Atlantic on the 17th, causing sharp frost inland for two nights. This high pressure system retreated towards the Bay of Biscay on the 20th, when a large depression reached the Norwegian Coast from the sea. It caused continuous westerly gales for 3 days in exposed districts of the British Isles. On the 27th a very energetic cyclonic system passed rapidly eastwards across Ireland to the vicinity of London. It brought heavy downpours of rain to Ireland and England, while much sleet and snow fell in Scotland. With its N. and N.W. winds came frost and snow showers on the last two days of the month. The duration of bright sunshine was estimated at 98 hours, or a daily average of 3.3 hours.

In Dublin the arithmetical mean temperature (45.4°) was exactly the average (45.4°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 44.0° . In the thirty-eight years ending with 1902, November was coldest in 1878 (M. T. = 38.2°), and in 1870 (M. T. = 42.2°); warmest in 1899 (M. T. = 50.7°), and in 1881 (M. T. = 50.3°).

The mean height of the barometer was 30.047 inches, or 0.187 inch above the corrected average value for November—namely, 29.860 inches. The mercury rose to 30.626 inches at 9 a.m. of the 5th, and fell to 29.144 inches at 9 a.m. of the 28th. The observed range of atmospheric pressure was, therefore, 1.482 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 44.0° , or 5.7° below the value for October, 1903. The arithmetical mean of the maximal and minimal readings was 45.4° , compared with a thirty years' (1871–1900) average of 45.4° . On the 12th the thermometer in the screen rose to 60.0° —wind, S.W.; on the 30th the temperature fell to 29.2° —wind, W.N.W. The minimum on the grass was 26.2° on the 30th.

The rainfall was 2.133 inches, on 16 days; the rainfall was considerably, while the rainy days were slightly, below the average. The average rainfall for November in the thirty-five years, 1866–1900, inclusive, was 2.560 inches, and the average number of rainy days was 17.0. In 1888, 6.459 inches fell on

26 days. On the other hand, the rainfall in 1896 was only .664 inch on 9 days. In 1902 the rainfall was 3.331 inches on 18 days.

High winds were noted on 8 days, and attained the force of a gale on two days—the 21st and 23rd. The atmosphere was more or less foggy in Dublin on the 4th, 5th, 12th, 13th, 18th and 19th. A lunar corona was seen on the 3rd. Sleet and snow fell on the 29th.

The rainfall in Dublin during the eleven months ending November 30th amounted to 30.015 inches on 212 days, compared with 15.378 inches on 141 days during the same period in 1887, 24.450 inches on 162 days in 1899, 32.736 inches on 196 days in 1900, 24.086 inches on 156 days in 1901, 27.812 inches on 190 days in 1902, and a thirty-five years' average of 25.380 inches on 180 days.

At Cloneevin, Killiney, Co. Dublin, 2.21 inches of rain fell on 13 days, compared with an eighteen years' (1885–1902) average of 3.138 inches on 16.4 days. The maximal fall in 24 hours was .87 inch on the 28th. Since January 1, 1903, 30.050 inches of rain have fallen at this station on 203 days. The corresponding figures for 1898 were 26.77 inches on 173 days; for 1899, 27.98 inches on 162 days; for 1900, 33.47 inches on 188 days; for 1901, 26.10 inches on 161 days; and for 1902, 30.18 inches on 178 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.105 inches on 12 days. Of the total quantity .870 inch fell on the 28th. From January 1st, 1903, up to November 30th, rain fell at Greystones on 193 days to the amount of 33.070 inches. The corresponding figures for 1898 were 28.786 inches on 156 days; for 1899, 32.870 inches on 162 days; for 1900, 30.926 inches on 173 days; for 1901, 31.425 inches on 147 days, and for 1902, 37.101 inches on 157 days.

Dr. B. H. Steede reports that at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 2.571 inches on 13 days, compared with 3.189 inches on 12 days in 1899, 5.724 inches on 18 days in 1900, 3.196 inches on 13 days in 1901, and 5.551 inches on 18 days in 1902. The maximal fall in 24 hours was .760 inch on the 28th. Since January 1, 1903, the rainfall at Newcastle amounted to 38.087 inches on 214 days. The corresponding figures for 1898 were 31.197 inches on 157

days ; for 1899, 30.832 inches on 152 days ; for 1900, 34.323 inches on 168 days ; for 1901, 28.149 inches on 155 days, and for 1902, 35.293 inches on 172 days. On the 12th the screened thermometers at the Royal National Hospital rose to 58.0°, on the 30th they fell to 31.0°.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 14 days to the amount of 1.93 inches, the greatest measurement in 24 hours being .52 inch on the 28th. In November, 1901, the rainfall was 3.53 inches on 8 days ; in 1902, it was 4.61 inches on 17 days. The mean temperature in the shade was 45.1°, the range being from 59° on the 11th to 30° on the 19th and 30th. Snow fell on the 29th.

At the Ordnance Survey Office, Phoenix Park, Dublin, the November rainfall amounted to 2.494 inches on 20 days, .650 inch being measured on the 28th.

At the Railway Hotel, Recess, Connemara, Co. Galway, rain fell on 21 days to the amount of 4.068 inches, .580 inch being measured on the 27th. Snow fell on the 30th, and a westerly gale prevailed throughout the 19th, 20th and 21st.

In Cork the rainfall was only 1.64 inches, or 2.42 inches below the average for November. There were, however, 18 rainy days.

Dr. J. Byrne Power, F.R., Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 46.3°, being 1.5° below the average for November during the previous 5 years. The extremes were—highest, 63° on the 11th ; lowest, 30° on the 19th. At Bournemouth the mean was 46.3°, the extremes being—highest, 56° on the 1st, 3rd and 10th ; lowest, 31° on the 20th and 30th. The mean daily range of temperature at Kingstown was 8.6°, and at Bournemouth 10.7°. The mean temperature of the sea at Sandycove bathing-place was 48.3°, being 2.3° below the average for November during the previous 5 years. The rainfall was 1.89 inches on 12 days at Kingstown, and at Bournemouth 1.57 inches on 15 days. The total duration of sunshine was 82.6 hours at Kingstown, 87.6 hours at the Ordnance Survey Office, Phoenix Park, 58.3 hours at Valentia, 63 hours at Parsonstown, 61.5 hours at Southport, and 74.5 hours at Eastbourne.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Tabloid" Antifebrin Compound.

THE formula for this preparation is as follows :—Antifebrin (acetanilide), gr. 2 (0.13 gramme); caffein citrate, gr. 1 (0.065 gramme); camphor monobromide, gr. 1 (0.065 gramme). This combination has been found useful in various forms of headache; in neuralgia, acute rheumatism, and other painful affections. It has also been prescribed with advantage in obstinate cases of vomiting following operations, and in sea-sickness. "Tabloid" antifebrin compound may be prescribed in any of the cases in which acetanilide is indicated. One may be swallowed with water, and the dose repeated, if necessary, at intervals suited to the requirements of the case. The preparation is issued in bottles of 100 by Messrs. Burroughs, Wellcome & Co., of Snow Hill Buildings, London, E.C.

"Tabloid" Hydrarg. Perchlor., gr. $\frac{1}{32}$, et Potassii Iodidi, gr. $2\frac{1}{2}$.

MESSRS. BURROUGHS, WELLCOME & COMPANY, Snow Hill Buildings, London, E.C., have recently added the above to their long list of "Tabloid" brand preparations. In cases requiring treatment by mercury perchloride and potassium iodide it is usually necessary to continue the administration of the combination with regularity for some time. "Tabloid" Hydrarg. perchlor., gr. $\frac{1}{32}$, et potassii iodidi, gr. $2\frac{1}{2}$, has been recently introduced to provide a trustworthy means of carrying out the treatment when small doses are required. When larger doses are necessary "Tabloid" Hydrarg. perchlor., gr. $\frac{1}{32}$, et potassii iodidi, gr. 5, which has been issued for some time past, may be prescribed. The assured therapeutic activity and the absolute accuracy of dosage of the "Tabloid" products render them the most reliable and convenient means of prescribing these drugs. "Tabloid" hydrarg. perchlor., gr. $\frac{1}{32}$, et potassii iodidi, gr. $2\frac{1}{2}$, is issued in bottles containing 100.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. III.—*Medico-Legal Notes from India*.^{*} By W. J. BUCHANAN, B.A., M.B., B.Ch., D.P.H., M.D. (Univ. Dubl.); Major, Indian Medical Service; Inspector-General of Prisons in Bengal; and Editor, *Indian Medical Gazette*.

It is proposed in the present thesis to collect some notes from my own observations and inquiries on certain aspects of Medical Jurisprudence in India, which differ in many respects from European, and especially English, experience.

Medical Jurisprudence is a subject of great importance to the European who practices medicine in India. If he is a member of the Indian Medical Service he will probably soon go into "civil employ," and when thus employed he will be the chief medical authority for a very large district, with a population of not less than a million inhabitants, and will be called to give his opinion on all questions of legal medicine that may arise in this large area.

The first subject which I propose here to deal with is POISONING—a very common crime in the east.

There is probably no country in the world that affords anything like the amount of toxicological material that India

^{*} A Thesis for the Degree of M.D. in the University of Dublin, December, 1903.

does. Every year more than ten thousand cases are referred to the Government analysts, or chemical examiners, as these officers are called in India ; and in one Calcutta hospital not less than 150 cases of poisoning are treated every year.

Broadly speaking, the poisons most employed for criminal purposes are arsenic, chiefly for homicide ; opium chiefly for suicide and for infanticide ; and datura for drugging with a view to robbery.

ARSENIC.

There are many reasons why arsenic should be the chief poison used for homicide. In the first place, it is easy to be obtained everywhere ; secondly, the acute effects of the poison so much resemble an attack of Asiatic cholera that suspicion is less likely to arise, especially if it happens that cholera is at all prevalent in the neighbourhood at the time.

All forms of arsenic may be used for criminal purposes, but white arsenic, arsenious oxide (As_2O_3), is the form most commonly employed. Its colour is white ; it has but little taste when mixed with sugar, sweetmeats, bread or rice, in which vehicles it is usually administered. As has been said white arsenic is easily purchased in every bazaar, as it has its legitimate uses—*e.g.*, as a preservative of wooden posts against the attacks of white ants, in the making of leather, and in curing hides and skins. It is also largely used for destroying vermin, and as a medicine in the treatment of syphilis, and in the more chronic forms of the malarial fevers. White arsenic is called in the vernacular languages *somul*, or *sumbhul*, and is largely imported from Hong Kong and Persia. On account of the difficulties of enforcement, and in spite of considerable medical agitation in its favour, there is no Sale of Poisons Act in many parts of India, and indeed the experience of the Province of Bombay, where such an Act was passed nearly forty years ago, is scarcely in favour of such legislation. By this Act the sale of arsenic was regulated by licence, and it was ordered that when pounded white arsenic was sold to the public it must be coloured with soot, indigo, or Prussian blue. That this enactment has been totally inoperative from a medico-legal point of view is clear from the statement of the Bombay Government Analyst that in the past 32 years there has not been met a single case in which

the arsenic used for criminal purposes has been found coloured as directed in the Act.

The sulphides of arsenic are less commonly used for the purposes of crime in India. Moreover, as they are commonly impure—in the state purchasable in the bazaar—and mixed with arsenious oxide, it is probable that their poisonous activity is largely due to the latter substance. It is curious, however, that a very large proportion of the cases in which the sulphides have been used have been suicidal.

In other instances arsenious oxide has been found mixed with the sulphates of iron and copper and with the sulphide of mercury.

An important point in the criminal use of this drug, and one which often leads to its detection, is the enormous dose usually administered by the criminal to the victim. I have examined a case in which the quantity was so great that I was able to scrape it off the walls of the stomach with a knife.

The motives which lead to the use of arsenic for homicidal purposes are chiefly revenge and sexual passion. Husband poisoning is commonly effected by the use of arsenic, and in some cases it is certain that the powerful drug was only used as a "love philtre," or as an aphrodisiac, and with no criminal intent. It is also an undoubted fact that in times of cholera prevalence arsenic is used as a means of getting rid of an enemy or a rival, in the many disputes which the land hunger of the Bengal peasant leads him to be involved.

Arsenic is less commonly used as an abortifacient, and usually with disastrous results. In such cases it is commonly applied as a mass of paste to the os uteri.

This poison is but seldom used for suicidal purposes, but when so used it is in very large doses; as much as 300 grains have been recovered in such a case, though, as said above, the mere fact of such enormous doses by no means negatives a homicidal view of the case.

Of course cases of accidental poisoning are not infrequent, owing to the common use of arsenic in the arts, and as a medicine. I have had charge of one case in which a native gentleman who suffered much from fever, and could or would not take quinine, accidentally poisoned himself by the continued use of Fowler's solution in very large doses (40 to 80 minims),

Arsenic is also very largely used as a cattle poison, though in the United Provinces its place is taken by the use of dried snake poison inserted under the skin on a piece of sharpened iron or wood.

The symptoms of acute arsenic poisoning are too well known to be here treated of, but certain noteworthy facts are to be mentioned.

In a few rare cases where death from shock has resulted the stomach has shown no signs of congestion, and has even contained a large quantity of solid and liquid food, vomiting not having occurred.

In a series of 191 cases of arsenic poisoning four have been recorded in which death took place within two hours, and in none of these was any appearance of congestion found. It would appear as if more than two hours contact were required to produce the appearances of congestion.

Endocardial lividity is also an appearance to be looked for. In a series of 33 Indian cases in which it was searched for it was present in eight.

As the decomposition of dead bodies is very rapid in a hot climate it is important to remember that the so-called anti-septic action of arsenic is confined only to the stomach and intestines, the other organs being as subject to rapid decomposition as in death from any other cause. Perforation of the stomach in arsenic poisoning is rare, but a few cases have been recorded in India.

The so-called "nervous cases" of arsenic poisoning are of importance, as they may be very misleading. As an example may be quoted the case of a man, aged thirty, to whom a poisonous dose of arsenic was given. He suffered from giddiness, faintness, coma, and suffused conjunctivæ, but had no vomiting or diarrhoea, and he recovered. In another case all the usual symptoms of irritant poisoning were present except purging.

The onset of symptoms in acute arsenic poisoning is generally rapid—that is, within half an hour. Bedford, an authority on Indian poisoning, gives 18 to 20 hours as the average period which elapses before death, and states that 82 per cent. of cases die within the first 24 hours. On the other hand, cases are on record in which symptoms did not appear for 14 hours, and death in the case of a single lethal dose has been delayed

as long as nine days ; and even longer intervals are recorded in European text-books. In some such cases the delay has been explained by the fulness of the stomach, by sleep, or by intoxication by opium or alcohol. In one case, however, recently recorded in India, where all such causes could be eliminated, no symptoms appeared for 14 hours. Another remarkable case is worthy of mention, where, in Bombay, a Parsee recovered after having swallowed "two masses" of arsenious oxide ; he passed, per rectum, no less than 105 grains. His only symptoms were slight diarrhoea, drowsiness and headache.

Arsenic is not invariably fatal, even when taken in poisonous doses, for in eight consecutive cases treated at the Calcutta Medical College Hospital five recovered.

OPIUM.

The next most important poison in Indian Medical Jurisprudence is opium. It is calculated that 40 per cent. of Indian poisonings are due to this drug.

Opium is but seldom used for homicide or for robbing ; it is the drug *par excellence* for suicide. It is also not rarely used for infanticide, and is not uncommonly the cause of the accidental deaths of children from its too frequent use to keep babies quiet. Moreover, owing to the frequency of the opium-eating habit, the drug may easily get into the hands of children with often serious results.

Poisoning by opium is frequently met with in hospital practice. In 193 consecutive cases of poison treated at the Calcutta College Hospital there were no less than 165 due to opium, and of these 42 per cent. died. This high percentage, in spite of a most complete and ever-ready system of treatment, points to the fact that most of them were cases of determined suicide, where large doses were taken late at night, and the victims were found in an advanced state of poisoning in the morning.

In the above 165 cases crude bazaar opium was used, except in one, where the tincture of opium was used. I may note, in passing, that the large experience of the Calcutta Medical College Hospital is not in favour of atropin as an antidote in such cases.

The symptoms of opium poisoning are well known, but it is less recognised that vomiting and diarrhoea are sometimes present; and tetanus and lock-jaw symptoms have been observed in the case of children poisoned with opium, and the occurrence of such might well mislead the medical attendant.

Opium is usually swallowed, but in some parts of India suicide has been attempted by the introduction of opium into the vagina.

It is seldom possible to find out the exact quantity taken. Taylor has recorded a case of fatal issue from four grains, and this is usually regarded as a lethal dose. On the other hand recovery has taken place after even very large doses. A curious case has lately been published where seven grains of opium were taken along with croton oil. The symptoms were entirely those of an excessive dose of the oil, and as severe as if no opium has been taken.

Opium and its preparations are ingredients of a large number of so-called patent and quack remedies, hence poisoning from it may in this way often accidentally occur. One of the most important patent preparations containing opium is chlorodyne, which is so largely used as a domestic remedy in India that a similar preparation has recently become official in the British Pharmacopœia. Owing to the amount of morphin in chlorodyne it is generally assumed that in cases of poisoning the pupils would be contracted. As a matter of fact, however, it has been recently pointed out by Powell, the Police Surgeon of Bombay, that in five recent cases met with by him the pupils were found widely dilated, owing to the not inconsiderable quantity of hydrocyanic acid used in these preparations.

DATURA POISONING.

The use of datura is in a special degree an Indian method of poisoning. The seeds are chiefly used, and are derived from the white and black varieties of the plant (*D. alba* and *fastuosa*), which are everywhere common in India.

The symptoms of datura poisoning are very similar to those of belladonna. It is very seldom used for homicidal purposes; but owing to a widespread belief among the natives that it is merely intoxicating a fatal issue sometimes results from its too liberal use.

Datura is usually given to produce a sufficient degree of insensibility to facilitate robbery and theft. The story told by the victims is almost always the same. It is to the effect that a party of villagers are travelling along a road; towards evening they are met by another party of presumed travellers. One or more of the new arrivals are dressed as Brahmins, or men of high and holy caste. They make themselves agreeable, and before dark the whole party settles down to camp out for the night. One of the robbers proposes that as he is a Brahmin he will do them the honour of cooking for the whole party. The compliment implied is too great to admit of any refusal, and the supposed Brahmin sets about preparing the evening meal of rice and pulses. In cooking he easily manages to add a quantity of *datura* seeds to the mess prepared for his victims. About half an hour after the food has been eaten the symptoms of poisoning appear, and soon result in a state of stupor and coma, during which the victims are helpless, and easily robbed. When they come to their senses a few hours later the robbers are far away, and with them the valuables of the deceived travellers.

In certain cases a decoction of the *datura* seeds is used, on the drinking of which the symptoms come on almost immediately. About 100 seeds are sufficient for even a fatal issue, so that a lesser number will suffice to produce the necessary stupor and delirium. The seeds of *datura* have a strong naked-eye resemblance to *capsicum* seeds, so much used in native cookery, hence the appearance of the poisonous seeds is not noticed.

The medical expert can, however, easily distinguish the *datura* seeds from those of *capsicum*. First, because of the peculiar earshaped marking on section, and secondly because a solution of the seed of *datura*, even in an extreme dilution, will dilate the pupil of a rabbit or dog. Bedford has also recently pointed out that the testa of the *datura* seed has a quite peculiar microscopic appearance.

This form of poisoning for robbery has, to an almost complete extent, taken the place of the strangling method of the Indian thugs or road robbers of an older time. *Datura* poisoning is now almost altogether in the hand of professionals, and such are to be found all over India. Quite recently a gang

was discovered at the Howrah Railway Station in Calcutta. They were headed by a native policeman, and they confined their operations to the watching of and following parties of native travellers alighting at lonely out-of-the-way roadside stations.

Other poisons are used in India in very much the same way as they are in other countries, and their use presents no peculiarities deserving of special mention here.

THE COCAÏN HABIT IN INDIA.

It is a suggestive and somewhat remarkable fact that within the last five years the practice of eating cocaïn has become widely prevalent in many parts of India—in fact to such an extent as to necessitate special legal measures for the control of the sale of this useful drug. I have elsewhere published a study of the cocaïn habit as practised among the juvenile criminal classes in Calcutta. The drug is usually taken for its euphoric effects, mixed with the *pan* and *betel*, so commonly used as a masticatory by the natives of India. The cocaïn is usually eaten in the form of the hydrochloride, as used in ophthalmic practice. The dose is generally about one grain, and is repeated as often as the *habitué* is able to buy this expensive drug. It produces a temporary feeling of satisfaction and well-being, but is soon followed by a reaction which calls for a repetition of the drug. Though I have seen individuals who claimed to be in the habit of eating as much as half a drachm a day, yet I am bound to say that in not less than 100 cases where, on admission to prison for some crime, the drug was immediately and certainly stopped the symptoms of abstinence were but slightly marked, and beyond a temporary depression and a hollow feeling in the abdomen there was but little complained of. One distinguishing sign of the cocaïn eater (at least when it is eaten along with lime *pan* and *betel*) is an ebony blackness of the teeth, especially on their posterior aspects. This sign I have not seen mentioned anywhere before I first pointed it out.

The recent introduction of the cocaïn habit suggests the view that if the efforts of the well-meaning opponents of what is called the “opium traffic” were successful a new drug or

narcotic would soon replace the use of opium, with results at least as serious.

The practice of CAMPHOR EATING has recently been reported as not uncommon in some native girls' schools in Calcutta. Giddiness and excitement followed by a deep sleep result from its excessive use.

RUPTURE OF THE SPLEEN.

This is an injury which is comparatively very rare in England, and, consequently, has received but scanty attention from writers on Medical Jurisprudence in the British Isles. The reverse, however, is the case in India, where rupture of the spleen is extremely common, and is constantly appearing in the law courts as the cause of death. In fact so common is it that in the case of the sudden death of a native it might often be safely presumed that the cause was rupture of the spleen. In the majority of those unfortunate cases in which a European is charged with having caused the death of a native by a blow or a kick, it is almost invariably the fact that the spleen was ruptured from a degree of violence which would have had no effect on a healthy person. Indeed, recently, a hostile newspaper went so far as to state that it did not believe in the existence of such an injury as rupture of the spleen—a statement based, I need hardly say, on the most absolute ignorance of the whole subject.

Rupture of the spleen, therefore, is a matter of the very greatest importance to the medical man practising in India, or in any other malarious country.

We have no statistics on a large scale as to the exact degree of the prevalence of enlargement of the spleen among the people of India ; but such as have been compiled go to show its very considerable prevalence. Indeed till recently an enumeration of the proportion of enlarged spleens in any community was used as a test of the malarial endemicity of any locality.

In the European, the books on anatomy tell us, the spleen weighs from 5 to 7 ounces. This is for Europeans whose average weight is usually taken at 150 lb. The average weight of the native of Bengal is, as the result of some 28,000 weighments collected by me, about 110 lb. only ; but in them

I have found the spleen to weigh on the average ten ounces (average of 314 careful weighments). The spleen as found *post mortem*, however, is usually more than this; the largest I have ever weighed was 64 oz.—that is, weightier than an ordinary enlarged liver. Moreover, many larger spleens than this have been found.

It is obvious, therefore, that a large spongy organ such as a spleen in this condition, taking up much more than its proper place in the abdomen, is peculiarly liable to external injury, which—owing to its friability and the large quantity of contained blood—must almost always be fatal.

In an admirable article recently published, Dr. D. G. Crawford has analysed in a very thorough way a series of 304 cases of ruptured spleen. These 304 cases were all taken from records of *post-mortem* examinations made for medico-legal purposes; and out of over 9,000 such records examined the number of cases of ruptured spleen amounted to not less than 3 per cent. of the whole. Moreover, out of the total 9,000 cases the spleen is noted as enlarged in no less than 37 per cent. of cases, and in some districts well over 50 per cent. of the spleens are recorded as enlarged. This means that more than one-half of the persons whose bodies come to be examined for the purposes of justice have enlarged spleens.

Following Crawford, we may further discuss this question under several headings:—

Age and Sex.—Examination of statistics shows that there is but little difference in the liability to this injury between men and women; and as regards age, nearly two-thirds were adults—that is, persons of an age most likely to be engaged in fights and quarrels.

CAUSE OF RUPTURED SPLEEN.

In the 304 cases, omitting 57 in which the cause is recorded as unknown, and a few from miscellaneous causes to be mentioned below, we find 102 due to blows from sticks, 62 due to blows of the fists or from kicks, 22 from falls, chiefly from trees; 2 from pressure on the body (a familiar form of torture), 23 as part of a murderous assault, and 20 from being run over, or from a heavy weight falling on the body.

The miscellaneous causes recorded are various, but of

importance, as showing what a slight degree of injury may lead to this fatal condition. Among these causes was one from a clod of earth thrown and striking the left side; others from the blow of a shoe, or a wooden stool, or the prod of a cow's horn; others were from being knocked down (not run over) by a horse, the blow of a fall to the ground or the kick of a horse.

The following case may also be quoted:—A European gentleman slipped on the floor of his bathroom and died in a few minutes; at the autopsy the spleen was found to be ruptured and to weigh 19 oz. Even this simple fall caused no less than four lines of rupture.

James has recorded the case of a shepherd boy who, while indulging in horseplay with another youth, fell and died in three hours. The spleen was found to weigh 22 oz., and to be ruptured in two places on the lower surface. In another case a Punjabi boy died after a blow which was ascertained to have been on the right side. The spleen was found enlarged, with a rupture $1\frac{1}{2}$ inches long on the inner surface.

James has also recorded another remarkable case of what he calls "spontaneous rupture" of this organ, in the person of a Punjabi, who, while conducting his own case in a law court fell down suddenly. Not the slightest evidence could be obtained that he struck anything as he fell, but at the autopsy it was found that the spleen was much enlarged, weighing no less than 3 lb. 13 oz., and to be ruptured for six inches along its inner surface.

Such cases are sufficient to show that even the slightest violence is enough to cause rupture of the spleen when that organ is diseased or enlarged.

THE SITE OF RUPTURE.

Of 262 cases where the site of the rupture has been noted, we find that 133 were on the inner surface, 55 on the outer surface, and 116 either on two surfaces or were irregular. Of 304 cases, 225 were single ruptures and 79 were multiple. It appears, therefore, that the inner surface is by far the most commonly ruptured, and it is said that on this aspect the spleen capsule is the thinnest.

In all the above cases the spleen is recorded as more or less

enlarged ; but I have records of 8 cases in which at the autopsy that organ is recorded as not enlarged. In these cases either the injury has been severe or multiple, as in a murderous assault, or after being run over. It is, perhaps, worth noting that in five of these eight cases the stomach is noted as having been found full, and in only one case is it said that the stomach was empty. Crawford, however, who has investigated this point, is of opinion that there can be found no very definite connection between rupture of the spleen and a state of fulness of the stomach.

COMPLICATIONS.

Of course, in cases of great violence it is natural to expect damage to other organs, but an analysis of Crawford's figures shows that in only 32 cases (10 per cent.) was any other organ than the spleen ruptured. In 19 of these 32 the liver was also ruptured.

THE PERIOD OF SURVIVAL AFTER RUPTURE.

This is often a most important legal question. I may quote a few cases bearing on this point. In Russell's *Malaria : its Causes and Effects*, a good case is related, where a man received a severe injury to the spleen and recovered ; but the injury to the spleen was confirmed some years after, when a *post-mortem* examination happened to take place on his body. I have been able to collect only seven cases of survival for considerable periods after undoubted rupture of the spleen, and many years ago I published one such case.

In four cases the victims survived just over 24 hours, in one case for five days, in two cases for four days, in another case for 2½ days, in another a "few days," in another for three days. The longest period of survival that I have been able to find is that of a man admitted to a Calcutta hospital with a rupture of the spleen, and he remained there for seventeen days, and the injury was confirmed *post mortem*.

In some cases the period of survival is passed in unconsciousness, but in others there can be no doubt that the patient may be able to speak, or make a dying declaration, &c.—points often of the greatest legal importance.

The question, too, may arise as to the possibility of a man

with ruptured spleen being able to arise and walk a certain distance. This point is not often noted in recorded cases, but in reading them nothing is often found which makes such impossible; and doubt is set at rest by the following case, published in 1867 by Dr. Hutchinson, in which an old man after having been severely beaten by a bamboo, walked to his home, a distance of about half a mile, and there died almost immediately. The *post-mortem* examination showed that the seventh and eighth ribs on each side had been fractured. The spleen was also ruptured, and also the liver.

It is worth adding that a case has recently been published (*Indian Medical Gazette*, Nov., 1903, p. 417) in which at an autopsy on a sepoy, aged twenty-four, there was found a total congenital absence of the spleen, along with a transposition of all the abdominal and thoracic viscera.

THE RAPID FORMATION OF ADIPOCERE IN WARM CLIMATES.

As regards the formation of adipocere in dead bodies which have lain in damp places, the experience of the medical jurist in India is different from that recorded by European experience.

It is well known that the great authority, Casper, has laid it down that the formation of adipocere is not likely to occur to any great extent in less than three or four months in the case of submerged bodies, and in six months in bodies in moist earth.

This is the opinion which is taught in most European textbooks; but such a view seems to be based only on the experience of cold or temperate climates. Indian experience, on the other hand, is to the effect that saponification, or the formation of adipocere, may take place in a very short time in damp and hot climates, such as that of Bengal is.

Some years ago, Mackenzie, then Police Surgeon of Calcutta, published eight cases, and I have been able to collect two more bearing on this question.

The ten cases are, briefly, as follow :—

1. A body was found in an advanced state of saponification on removal from a tank, where it had lain for "several days."
2. The body of a groom, exhumed from a damp Mahomedan burial-ground four days and four hours after inter-

ment, was found to be in an advanced state of saponification.

3. A Chinawoman disinterred 76 hours after burial was also found in an advanced state of saponification.

4. A Bengali was drowned in the River Hughli; the body was recovered after three days, and the internal organs were found saponified.

5. The body of a European, two days in the water, was examined, and all the external portions of the body were found to be saponified.

6. The body of a European sailor was recovered from the river eight days and ten hours after drowning. The external parts, the heart, liver and spleen, were found saponified.

7. The body of a sailor recovered from the river on the fifteenth day was found to be in an advanced state of saponification.

8. The body of a European youth was recovered after having been in the river seven days; it was in an advanced state of saponification.

To the above eight cases of Mackenzie I may add two more recent ones :—

9. D. M. Moir's case.—A body was exhumed after having lain in a damp grave, at the depth of three feet, on the side of a lake. The body was so much saponified that Moir was able to completely confirm the previous *post-mortem* examination. The soil in which the grave had been dug was damp, being saturated with the rain of the previous three months' monsoon.

10. The tenth case is recorded by Dr. R. S. Ashe. The body was that of a boy, aged nine, exhumed four days after burial. The skin of the abdomen, chest, and extremities was found to be mottled and waxy looking, and free from offensive odour. Portions were sent to the chemical examiner, Calcutta, who reported that "partial saponification had taken place in the tissues." This opinion was also confirmed by the Professor of Pathology at the Medical College, to whom the specimens were also submitted for opinion.

In view of the above ten cases it is scarcely possible to hold to the European view that a long period of weeks and months is necessary for the formation of adipocere.

THE PERIOD REQUIRED FOR THE DIGESTION OF INDIAN FOODS.

This is a subject on which but few observations or experiments have been recorded. It is, however, easily understood that the presence or absence of food from the stomach of a body found dead may be of legal importance. The following observations of Dr. P. C. Singh, of Patna, have been compiled and published at my request.

It must be premised that the ordinary food of the native of Bengal consists of rice and pulses. It is of considerable bulk—about 24 oz. of cooked rice (8 oz. of dry rice), 12 oz. of cooked pulses, and not less than a pint of water being taken at each meal. It appears that this bulky quantity of food is not so quickly got rid of by the stomach as the more concentrated food of the European. Therefore any opinion given, which is based upon experiments on European foods, is apt to be misleading.

The following observations were made on bodies sent in for medico-legal examination :—

1. A Hindu, aged thirty-five, took food at 8 a.m. He was severely assaulted at ten o'clock (two hours later), and died at 2 p.m. from the effects of ruptured spleen. At the autopsy a large mass of undigested rice and pulse was found in the stomach. Death had taken place six hours after the last meal; but it is possible that the process of digestion may have been interrupted by the shock and hæmorrhage at ten o'clock.

2. A young man took food at 11 p.m.; he had an epileptic fit at 2 a.m., and died at 5 p.m. the next day. The stomach was found half full of undigested rice.

3. A man took his evening meal at 10 p.m., went to sleep soon after, was murdered in his bed at 5 a.m. (i.e., 7 hours after taking food). A small mass of undigested rice and potato was found, so that stomach digestion was not completed even in seven hours.

The following experimental observations were made by washing out the stomachs of healthy persons at fixed periods after taking food :—

1. Large meal of pulses, rice and vegetables at 12 noon; stomach washed out after three hours, some undigested rice remained.

2. Same person, another day; stomach washed out after four hours; one ounce of undigested rice was recovered.

3. Same person, another day; after five hours some undigested rice flowed out from tube (250 grains counted), and so up to seven hours, when even then some undigested grains of rice remained in the stomach.

4. A similar experiment on another man; some 200 grains of rice, undigested, were found on washing out after five hours.

5. Similar experiment; two drachms of undigested rice were found after six hours.

6. Same person, fed on rice and chapatti (a sort of unleavened bread in the form universally used by up-country natives); after six hours some rice and a piece of the chapatti were found undigested.

In two similar experiments pieces of the chapatti, undigested, were found in the stomach after so long intervals as six hours and thirty minutes, and after six hours and forty minutes.

These experiments and observations seem to show that some portion of a meal of rice, pulses, &c., may be found undigested even six or seven hours after the taking of food.

A NOTE ON THE VALUE OF SOME *POST-MORTEM* APPEARANCES OF DROWNING.

In all countries deaths from drowning are very common, and this is especially the case in the country of the Gangetic Delta, where, during the rainy season, the country is to a large extent flooded, and communication is largely by means of boats. Consequently, accidental deaths from drowning are very common. It is also a favourite method of suicide, and much more rarely used for homicide.

The *post-mortem* appearances, in addition to those of apnoea, or asphyxia, are froth in the mouth and nostrils, water or mud in the stomach or intestines, mud sand and floating matter in the lungs and windpipe, &c., &c.

When several of these signs are present the decision as to the cause of death is not difficult; but more usually the medical jurist has to depend upon the presence of asphyxia and one or more of the signs above mentioned.

The history of the cases may be of value; on the other hand it may be misleading, as it is not an uncommon practice in

India to throw the bodies of persons done to death in various ways into rivers or tanks, either in the hope of hiding the body, or to create a supposition of accidental drowning.

Two signs of asphyxia are of special value—viz., an accumulation of fluid in the pleural sacs, and the staining of the endocardium of the right side of the heart.

When an individual dies from asphyxia produced by any cause (and in India one has always to be on the look out for signs of opium poisoning), the vessels of the lung are distended with blood, and the lung tissue is filled with a watery fluid, derived by transudation from the distended capillaries. In the asphyxia caused by drowning the quantity of fluid is increased by the water aspirated during the third stage of drowning, and when this stage is prolonged a very large amount of fluid is drawn into the lungs, hence if the body is opened soon after death the lungs are large, “ballooned,” and sodden, and blood and watery fluid pour forth on section. If, however, the examination is made after putrefaction has set in, the fluid will have transuded and accumulated in the pleural sacs, which may be sufficient to make the lungs float up and project on the thorax being opened.

The stained condition of the endocardium of the right ventricle indicates that this cavity was full of blood after death, and its discoloured state is in marked contrast to the yellowish colour of the left ventricle.

These signs, however, only point to death from asphyxia; they do not show the cause of that condition, hence the importance of the history of the case, and the presence of fluid, mud, &c., in other organs.

The following table is compiled from carefully made notes by Gibbons, the Police Surgeon of Calcutta, on 157 bodies in which death occurred from drowning :—

			Fluid.		Mud.
Air passages	..	..	12.7	..	15.9
„ „ and stomach	..	..	13.4	..	10.0
„ „ stomach and intestines			5.0	..	3.8
Air passages and intestines	..	..	1.2	..	.6
Stomach	..	..	.6	..	5.0
Intestines	..	..	1.2	..	.6
Stomach and intestines	..	..	1.2	..	1.9

In 25 per cent. of this series neither fluid nor mud was found inside the body, and mud was found in either the air passages or the digestive tract in 37 per cent. of cases. Here, again, the condition of the body at the time of examination is of importance, and it was found that in 55 fresh bodies either fluid or mud, or both, were found either in the air passages, stomach or intestines. In 25 slightly decomposed bodies there was found neither fluid or mud in six, or in nearly one-third of the cases. In 81 highly decomposed bodies no signs were found in 47 upon which a diagnosis of the cause of death could be made with certainty, and in 34 of these neither mud nor fluid was found.

These facts illustrate the difficulties of the medical jurist in India, who has often to endeavour to form his opinion as to the cause of death on a body highly decomposed, and in which the internal organs are both putrid and pultaceous. In many such cases, however, the two signs of asphyxia above mentioned—viz., accumulation of fluid in the pleural sacs and the staining of the endocardium of the right ventricle—will be found, and if found the inquiry is narrowed. In such a case if there is a history of the body having been found in water, and if poisoning or hanging can be excluded, the opinion that death took place from drowning can be given with some confidence.

ART. IV.—*The Diagnosis of Perforation in Typhoid Fever.* By
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OF all the complications of typhoid fever none demands earlier recognition, if the patient's life is to be saved, than the occurrence of perforation. The advance in surgical technique during the past decade has, in this respect, enormously increased the responsibility of the physician. Twenty years ago he could do little more than be guided by traditions hallowed by time and authority, and follow Heister, who, writing in 1739 on perforation of the bowel, could only advise that the patient be kept quiet, that he be urged to eat

abstemiously, and to lie upon his belly, and that the rest be left to Divine Providence and the strength of the constitution. But now the peritoneum has been robbed of its unknown terrors, and all are agreed that the proper way to close a perforation of the gastro-intestinal tract is by a needle and silk, and not by opium. Operative interference in typhoid fever is further facilitated by the fact that in about eighty per cent. of the cases the perforation is within eighteen inches of the ileo-cæcal valve. The real difficulty in saving cases of perforation lies not in the surgical technique, though skill and resource in the operator are essential, but in the early recognition of the intestinal complication.

In some cases, doubtless, the onset of symptoms of perforation is striking, if not almost pathognomonic, and there is no ground for hesitation as to what the proper treatment should be. In cases admitting of an accurate diagnosis there can be no choice between an almost certain and painful death in twenty-four or forty-eight hours, if an operation be not undertaken, and a fair chance of recovery in the hands of a competent surgeon. There is, however, another class of cases in which the physician has only a suspicion that perforation has occurred. If certain signs suggest perforation, other signs tend to negative it. It therefore becomes his duty to most carefully balance and weigh the positive against the negative indications, and decide whether the case demands exploration or otherwise. Certain general considerations must influence him in coming to a decision. He may start assured that in 95 per cent. of the cases in which perforation has taken place, recovery is a practical impossibility without an operation. Curschmann, in the article on typhoid fever in Nothnagel's Practice of Medicine, states, with Osler's approval, that not more than 5 per cent. of the unoperated cases of perforation recovered. Keen, basing his observation on 158 cases of operation for perforation in enteric fever collected by him, gives 23.41 per cent. of recoveries. Of 16 cases operated on in the Johns Hopkins Hospital, with every convenience at hand and a staff as keen as possible in the early detection of perforation, 6 recovered. This gives a percentage of 37.5.

On the other hand it cannot be forgotten that an exploratory

operation is not free from risk. Undoubtedly the risk is a diminishing one, but it has not yet reached vanishing point. But in addition to the risk at present inseparable from exploration, we must remember the depressing effect which the preliminary arrangements for such an operation must have on the patient. The irritation of the ether acting on bronchial tubes already somewhat inflamed is a factor which must be reckoned with. Such considerations as these have no weight in a case in which the diagnosis is clear. If, however, the diagnosis be only problematical, it cannot be overlooked that to submit a patient in the third or fourth week of typhoid fever, with a weakened heart, a frequent pulse, and a considerable degree of bronchitis, to an unnecessary exploratory laparotomy, must materially minimise his chance of recovery. The risk of the operation may be diminished by performing it, as Cushing suggests, under local cocaine anæsthesia. By following this recommendation we avoid the danger of aggravating the bronchitis, but we do not remove the mental shock directly connected with as grave an operation as an exploratory laparotomy.

An accurate diagnosis, so that an operation may not be unnecessarily undertaken, is therefore of great importance, but an early and accurate diagnosis is of vital importance. The absolute necessity of not losing time after perforation has taken place is demonstrated by some statistics collected by Professor Osler. Of 15 cases operated on within twelve hours 4 recovered ; of 20 cases operated on between the twelfth and twenty-fourth hour 6 recovered ; and of 13 operated on in the second twenty-four hours only one recovered.

How are we to arrive at the desideratum of an early and accurate diagnosis ? By recording cases of perforation, and cases which simulated perforation, and as far as may be deducing from them indications which favour or tend to negative perforation. I venture to submit to the Academy three cases of typhoid fever in which perforation either actually occurred or was simulated.

In Case I. the diagnosis was correct, but the patient succumbed ; in Case II. it was wrong, but the patient recovered ; while in Case III. it was, and is still, doubtful, but the patient has long since recovered.

CASE I.—G. C., a well-developed lad of twenty-one years, was admitted to Sir P. Dun's Hospital on September 9th, 1891, suffering from typhoid fever. He had been ailing for ten days, but had given up work only six days previous to his admission. His temperature was 101° F. and his pulse 90 per minute. The following morning his temperature reached 104.4° F. He was sponged during the night, and the next morning the temperature was 103° F. Everything seemed quite satisfactory till 5 p.m., when he was seized with severe pain in the abdomen. At 6 p.m. he had a constant desire to pass urine, and complained of pain shooting down the penis. He was pale and somewhat collapsed. At 7 p.m. these symptoms had increased, and he was sweating profusely. The hepatic dulness was deficient. A diagnosis of perforation was made, and at 8 p.m. he was seen by the physician on duty, who ordered stimulants by the rectum and a hypodermic of morphin and atropin. During the night the pain ceased, the extremities became cold, the patient thought he was better, then became slightly delirious, and died early the following morning, about twelve hours after the perforation had occurred.

The *post-mortem* examination revealed an acute peritonitis due to the perforation of a typhoid ulcer close to the ileo-cæcal valve. The actual size of the perforation was the cross section of a lead pencil.

In this case the diagnosis of perforation was clear, and the treatment of a similar case would now, unquestionably, be a laparotomy and closure of the perforation. The striking features of this case were the sudden onset of violent pain, the frequent desire to micturate, and the pain shooting down the penis, suggesting that the peritoneal coat of the bladder was becoming inflamed, and the diminution of the area of hepatic dulness.

CASE II.—O. G., aged twenty-seven years, was admitted to Sir P. Dun's Hospital on 6th July, 1892, in his tenth day of an attack of typhoid fever. For the first few days he was in hospital he had diarrhoea, but for the remainder of his illness constipation. By the morning of the nineteenth day his temperature had become almost normal. On that day he complained of pain in his left leg, and his temperature rose to 103.2° F., owing to the

formation of a thrombus in the left femoral vein. On the morning of the twenty-sixth day of his illness his temperature was 102° F. On the morning of the twenty-seventh day he awoke with severe pain in the right iliac fossa. When he was seen a couple of hours later by the physician on duty there was considerable resonance in the right iliac fossa. The resonance gradually increased in area and the temperature dropped. His pulse did not change materially in frequency. It was considered that his symptoms pointed to a perforation in the neighbourhood of the ileo-cæcal valve, and, after consultation, the surgeon on duty was requested to do an exploratory laparotomy. The abdomen was opened through a small incision in the right linea semilunaris. The abdominal contents seemed perfectly normal. There was no peritonitis, no extravasation, and no gas. The wound was closed. Next day the temperature fell to 96.4° F., and the pulse increased to 120. The temperature subsequently rose to 102° F., continued irregular for a few days, and then settled down. The patient was discharged from hospital apparently perfectly well.

I lost sight of him for some three years, till he came to the Royal City of Dublin Hospital on the 15th of April, 1895, complaining of swollen and ulcerated legs. The legs were cedematous; showed large discoloured areas, evidently produced by hæmorrhagic extravasations; and above each ankle there was an ulcer. An examination of the abdomen revealed the presence of an enormous vein starting from each groin, ramifying over the front of the abdomen and extending up to the thorax. He had developed thrombosis of his inferior vena cava, but, fortunately, the clot did not reach as high as his renal vein. It is some years since I saw this patient, but I recently heard that he was alive and able to work.

In this case perforation was simulated by the sudden onset of the severe pain in the right iliac fossa, accompanied by a gradually increasing distention and a falling of temperature. The condition of the pulse was rather against the occurrence of perforation, but the weight of evidence favoured a diagnosis of perforation, and led to what was subsequently shown to be an unnecessary exploration.

CASE III.—On Thursday, Dec. 27th, 1900, I was asked to see Miss A., one of the nurses in the Isolation Building of the Royal

City of Dublin Hospital, who was complaining of headache. She had not been feeling well for a couple of days, but she had remained on duty till 5 p.m. on the 26th Dec. Her temperature that evening was found to be 101.6° F. When I saw her on the following day her chief complaint was of violent pain in the occipital region. There was no retraction or rigidity of the head; tongue was tremulous and coated with white fur; pulse 96, temperature 100° F. Two aperient pills had been taken a couple of days previously with a satisfactory result. She felt very well on the 28th, at noon, pulse 72, temperature 98° F. She was anxious to be allowed up. She took a little raw apple during the day without permission. In the evening, temperature 100° F., pulse 72. On the following morning (Saturday 29th), I had a note from my Resident Pupil (Mr. Buchanan), stating that the patient had been in bad pain since 4 a.m. On arriving at the hospital I ascertained that with the assistance of a mild hypnotic she had slept soundly till 3 40 a.m., when she awoke with violent pain in the hypogastrium, shooting up towards the epigastrium, and all over the abdomen. At 5 a.m. she vomited. At 11 a.m. she lay on her back with her legs acutely flexed on her abdomen, and unable to stretch them down. She was pale, and looked extremely ill. The skin was a little moist; the tongue was coated, and dry over a triangular area at the tip. The *alae nasi* were not working. The respirations were 36 per minute and superficial; temperature 102.6° F., pulse 108. She objected to the weight of the bed clothes on her legs. On examining the abdomen she was very tender all over it, and just as much in the left iliac fossa as in the right. On percussion the note was almost uniformly resonant over the abdomen, and there was also a resonant note in the two lowest intercostal spaces in the right nipple line (diminution in area of hepatic dulness). She had not been able to pass urine since 4 a.m., though she had tried several times; but as a catheter was being passed the urine came before the instrument had entered the bladder. The urine contained no albumen, but indican was present, and the "diazo" test gave a deep red. As the symptoms were so suggestive of acute perforative peritonitis, I asked my colleague, the late Sir George Duffey, to see the patient in consultation with me. Preparations were made for an operation, but we decided to wait for a little longer. At 2 p.m., the temperature was 103° F., pulse, 104; otherwise no decided change. She was given enemata

104 *The Diagnosis of Perforation in Typhoid Fever.*

of boric acid lotion which she retained. At 4 p.m.—i.e., 12 hours after onset of violent pain—she was heavy; pulse 108, temperature 104° F., respiration 34, and she had short periods of ease from pain. The first sound of heart was feeble, and the abdomen was a little more distended. She looked a shade better; voice a little stronger, and she was able to move her legs a little. She slept from 7 30 to 8 p.m. Since 9 p.m. she has vomited twice and hiccupped three times. She is sleeping for past 20 minutes, and continued to do so till 12 20 a.m. On awakening, temperature 101° F., pulse 120, respiration 32. The pain is not so severe; the tongue is moist. 30th Dec., 10 a.m.—Had some snatches of sleep during night, in all 1½ hours; vomited at 8 a.m., two ounces of greenish fluid. Decubitus still dorsal; sunk down in bed; looking very ill; temperature 99.8° F., pulse 108. 4 15 p.m.—Abdominal muscles move slightly in respiration; slept 40 minutes. 11 p.m.—Hiccough and vomiting troublesome during afternoon; passed two light-coloured fluid motions. Blood removed to-day gave a positive Widal. 31st Dec., 10 30 a.m.—Broken sleep, in all 2½ hours; flatulence and hiccough not quite so frequent; vomited at 7 a.m. some bile-stained fluid; bowels acted twice; pain much less, referred now to left hypochondrium; feels very weak, as if she were going right through bed; pulse 104, temperature 99.4° F. 4 30 p.m.—temperature 101.8° F., pulse 112, respiration 36. 1st Jan.—Slept 3½ hours at intervals after taking m x. of liq. morph. hydrochlor.; Widal again positive, 1 in 50; pulse varied during the day from 100 to 112. 2nd Jan., 11 30 a.m.—Distention of abdomen greater than on previous occasions, but there is little pain with gentle pressure over the abdomen; aspect better; pulse 96; has had numerous liquid motions during the day. 7 p.m.—A brownish motion passed on this day contained a portion of apple; temperature 102° F., pulse 105; some vomiting and hiccough. 3rd Jan.—Looks very ill; face drawn; did not sleep well, and vomited about one pint of greenish fluid; hiccough troublesome; considerable distention of abdomen. Passed a restless day, vomiting and hiccough frequent. She was given a hypodermic injection of morphin and strychnin. 4th Jan.—Vomiting not so frequent, but hiccough very troublesome; bowels have moved six times, but distention has rather increased. There is now practically no liver dulness. Temperature 99.4° F., pulse 116. 5th Jan.—Owing to the intense foetor of the evacua-

tions and the abdominal distention, boric enemata were administered, producing seven motions; she has not vomited for 36 hours; hiccough has not been so troublesome; aspect is better; bowels are acting; when dozing the respirations are quieter. There is, however, increased frequency of the pulse (126), with a lower temperature (99° F.). 7th Jan.—No vomiting; less hiccough; better in every respect, except that her pulse keeps so frequent (120 to 130); temperature 101° F. 8th Jan.—Temperature rose to 103.2° F. for a short time, but the pulse has fallen to 112, and distention is less. From this date onwards there was a gradual, but continuous, improvement in the patient's condition. The hiccough ceased on the morning of the 10th Jan., the distention subsided; strength improved. Pulse fell to 88 and temperature to 99.4° F. on 19th inst. On the 26th Jan. she was allowed bread, and she sat up in bed on 28th. She left the hospital on 18th Feb., and has since been in the enjoyment of excellent health.

This case was undoubtedly one of typhoid fever. The well-marked Widal reaction, as observed in dilutions of 1 in 50 by two independent examiners on two different occasions, and occurring in a patient who never previously had typhoid fever, negatives any other hypothesis. But what is the explanation of the acute abdominal symptoms? Peritonitis, due to intestinal perforation and extravasation, is at once suggested by the sudden onset of the violent abdominal pain, the vomiting, the superficial respiration, the great tenderness over the abdomen, the decubitus, the diminution in the area of hepatic dullness, the increasing frequency of the pulse, the inability to pass urine, &c. As against perforative peritonitis it must be admitted that the temperature tended rather to rise than to fall, that the patient got short snatches of sleep of some fifteen minutes' duration, without the internal administration of any hypnotic, and that twenty hours after the onset of acute symptoms the pulse was only 120, and the patient was free from violent pain. It may also be alleged that the acute symptoms developed on the fifth day of the patient's illness, which would be too early for perforation to occur. The patient was subsequently questioned carefully on this point, and she admitted that though discharging her

nursing duties as usual, and partaking of ordinary food, she had not felt really well for a fortnight previous to the 25th of December. During this period she took her temperature on a couple of occasions, but did not find it above 99° F. If these fourteen days be added to the above-mentioned five we reach a date in the history of typhoid at which perforation might very well occur. We have, further, in the uncooked apple eaten without permission on the 28th of December, a dietary indiscretion which might be considered sufficient to encourage perforation. My difficulty in regarding this as a case of perforation and extravasation is the complete recovery of the patient without the formation of any abscess. Curschmann, to whom I have already referred as stating that five per cent. of perforations recover without operation, indicates that this result is to be attributed to a localised limiting peritonitis generally with the formation of an abscess. In this case the symptoms were not at any time localised; there was never any sign of abscess development, and it is hard to imagine that a general infection of the abdominal cavity by typhoid faeces could terminate by recovery without operation. Personally, I have not met a case in literature which does for perforation in typhoid fever with general peritonitis what a case recorded by Hughes, Ray and Hilton in "Guy's Hospital Reports" has done for perforation of a gastric ulcer. They have recorded a case of a perforated gastric ulcer which recovered under the administration of large doses of opium. Three months subsequently another ulcer perforated in the same patient, and the autopsy revealed the accuracy of their diagnosis in disclosing the presence of a peritonitis of some months' standing with abundant moderately firm adhesions between the intestinal coils.

Perforation without extravasation is, I think, improbable, as, considering the amount of food partaken of on the 27th and 28th December, it is unlikely that the ileum was empty on the morning of the 29th December.

The violent pain had abated within twenty hours after its onset, the abdominal rigidity had lessened in two days, but bilious vomiting lasted in all for some six days, while

hiccough persisted, though in a diminished intensity, for four days after the vomiting had ceased.

As a possible solution of this obscure case, and as an explanation of the diffuse peritonitis which I believe was present, the suggestion that the exciting factor was a ruptured mesenteric gland is, I think, defensible. The question of operative interference was often discussed with my late colleague, Sir George Duffey. Even if perforation had occurred, we felt that in the patient's grave condition exploration was at best a forlorn hope. And we never had such a combination of the following symptoms which, when weighed against indications negating perforation, seemed to us sufficiently strong to justify surgical intervention.

From these three cases the lesson of the danger of trusting too implicitly in any one sign or symptom as pathognomonic of perforation may be learned. I venture, in conclusion, to set out in tabular form some of the signs and symptoms which, though not arranged in the order of their frequency or importance, are worthy of consideration when a physician is face to face with the question, Has perforation occurred?

1. Pain. This is characterised by its sudden onset and its violence. It may start in the right iliac fossa or lower abdominal region, but it soon spreads all over the abdomen.

2. Rigidity of the abdominal wall, which will often be accompanied by flexion of the lower limbs and the development of a decubitus suggestive of profound peritoneal irritation.

3. Tenderness on pressure all over the abdomen, but especially so in the lower half.

4. Respiration. This is superficial, is increased in frequency, is mainly, if not entirely, thoracic, and is accompanied by activity of the *alæ nasi*.

5. Pulse. The frequency of the pulse, as a rule, increases—in some cases about 10 beats per hour.

6. The temperature is not of much use. If previously elevated it may drop on the occurrence of perforation. A normal or sub-normal temperature is not incompatible with acute generalised peritonitis.

7. The aspect of the patient is suggestive of acute suffer-

108 *The Diagnosis of Perforation in Typhoid Fever.*

ing. The face is pallid, the skin moist, and the extremities cool. These symptoms may subside after the immediate effects of perforation are over, to return in an aggravated form on the development of definite peritonitis.

8. Micturition. There may be, as in Case I., a constant desire to pass water. In other cases there is retention.

9. Vomiting may occur at the moment of perforation or not for some hours later, after peritonitis has developed.

10. Hiccough is usually a late symptom.

11. Liver dulness has not the same value in typhoid perforation as in gastric perforation, in part due to the fact that owing to intestinal distention it may be often diminished without perforation, and in part because there does not seem to be the same amount of free gas in the abdominal cavity in typhoid as in gastric perforation, and consequently the diminution or abolition of the area of hepatic dulness is more frequently met with in the latter variety of perforation. Notwithstanding these drawbacks, the gradual diminution in the limits of hepatic dulness in a case in which a couple of hours previously the area was normal may prove a valuable aid.

12. Uniform abdominal note. This condition is not likely to be met with except in cases in which a considerable amount of gas has escaped into the abdominal cavity. It is a late sign, and is present with marked abdominal distention shortly before death.

13. The urine. The only constant abnormality I have noticed in perforative peritonitis is the presence of indican, but this substance is so frequently found in enteric fever that detection gives little assistance.

14. Leucocytosis. In the absence of other complications the occurrence of leucocytosis in a patient whose blood previously showed a leucopænia, "may be a valuable help, but it is not constant" (Osler.)

ART. V.—*The Climate of Kingstown and the South Coast of England compared.* By J. BYRNE POWER, M.R.C.P.I., D.P.H., F.R. Met. Soc.; Medical Superintendent Officer of Health for Kingstown.

To the number of this Journal for December, 1903 (Vol. CXVI., Third Series, No. 384), I contributed a paper on this subject. It is difficult for the reader to draw conclusions from a communication bristling with figures and statistics. I have, therefore, ventured to throw into the form of a summary the practical lessons which may perhaps be learned from a comparative study of the records of the Kingstown Meteorological Station and of those compiled at certain British Health Resorts.

I consider that the physical facts and tabular statistics which I have placed before my readers fully suffice to establish the claims of Kingstown to a foremost place among the specially favoured health resorts of the British Islands—both as a *summer* and as a winter residence. Those claims, which I have discussed in the paper in question, may be briefly summarised as follows:—

1. Kingstown is situated in a peculiarly advantageous position on the coast: being placed in immediate—I may say, abrupt—proximity to the *deep* Sea.

2. Its position is specially favourable to enjoyment of the modifying influences of the Atlantic Ocean and its anti-cyclonic atmospheric currents.

WINTER.

3. The *winter* temperature is higher than that of any of the noted health resorts on the south coast of England, except Torquay; and equals that of Ventnor in the Isle of Wight.

4. The *range* of temperature during the *winter* months is the same as that of Torquay, and considerably less than that of Bournemouth; the extremes showing less difference than those of any of the stations on the south coast of England.

5. The rainfall is less during the *winter* months than at any of those stations.

SUMMER.

6. The *summer* temperature displays a moderation in heat strictly comparable to that of the cold in winter.

7. The *range of summer* temperature is correspondingly small.

8. The *rainfall* in the *summer* months is very moderate, although not so peculiarly low in record as it is during the colder part of the year.

GENERAL.

9. The *relative humidity* of the atmosphere of Kingstown presents a lower annual record than that of Llandudno. And that of Llandudno is the lowest of any station in the whole of Great Britain.

10. The east wind prevails but slightly at Kingstown as compared with the stations on the south coast of England; and, very happily, its visitations are far fewer in the colder than in the warmer months.

Once more may I express the hope that I shall not be considered as overrating the Kingstown climate or representing this place as being an absolutely mild winter residence; such is not my intention. As I stated in my paper, I have spent some winters in the south of Europe, Madeira and elsewhere, and therefore I am not likely to fall into such an error.

SANATORIUM FOR WEST WALES.

AT the second annual meeting of the West Wales Branch of the National Association for the Prevention of Consumption, the Hon. Secretary submitted his report, which stated that a site for a sanatorium on the Highmead Estate had been kindly offered by Colonel Davies-Evans. From among the offers of the well-known firms who had been asked to compete, the plans and specifications of Messrs. Speirs & Co., of Glasgow, appeared to best suit the requirements of the Association. The proposed sanatorium, which will be erected of composite iron and wood on Speir's patented system of construction of air-spaced walls, provides accommodation for thirty beds, including two wings of four beds each for special paying patients, with administrative block. The total cost, including foundation, lighting, &c., is £7,000.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Practical Study of Malaria and Other Blood Parasites.
By J. W. W. STEPHENS, M.D., and S. R. CHRISTOPHERS,
M.B. Published for the University Press of Liverpool by
Longmans, Green & Co., London. 1903. Pp. 378 and xxxv.

THIS is an exceedingly valuable book, and one which will prove a real boon to everyone engaged in the study of blood infection by animal parasites—particularly by those who, as is generally the case in places where these infections are most common, are thrown entirely on their own resources and have not the assistance and appliances to be met with in a laboratory. The authors are well qualified, from their extensive practical experience of investigations carried out in tropical countries, to give directions as to how such work should be undertaken, and like all true practical workers they aim at simplicity in method. "In the present handbook we propose to give the essentially practical methods by which those not familiar with laboratory methods may, under their own microscopes, follow all the most recent work on malaria, and eventually be in a position themselves to add new facts to our knowledge of this important disease. For instance, with very little apparatus it is possible to undertake many most important researches—*e.g.*, to work out the *rationale* of infection in any station or cantonment; the form of the parasite present; the percentage of adults and children infected; the species of *Anopheles*; where each species is found and where it breeds; the percentage of each species carrying sporozoites and zygotes. In fact nearly the whole technique of malaria can be conducted with a microscope, a few slides and cover glasses, a needle, a stain, some tubes, pins, and card board."

Accordingly we find full directions for making blood films, both wet and dry, and for staining the latter by Romanowsky's

method ; descriptions of the appearance seen in normal blood and in that taken from infected subjects, not only those due to the presence of the parasite, but the subsidiary appearances such as the pigmented leucocytes, and increased percentage of the large mononuclear cells ; directions for examination of the tissues, either by smears, as from spleen or bone marrow, or by sections, with simple rules for embedding in paraffin and section cutting, staining and mounting. A chapter on the life history of the malaria parasite is illustrated by a useful diagram showing the asexual and sexual cycle undergone by the organism. Several chapters, indeed the greater part of the volume, is occupied with the study of the mosquitoes—how to catch, kill, preserve and identify the different kinds ; how to find them, how to dissect them, and how to embed and cut them into microscopic sections. The eggs, larvæ, nymphæ and imagines are all fully described, and directions are given for their study and identification. Anopheles, naturally, comes in for most notice, but Culex and others are not neglected.

The “endemic index,” that is, the percentage of infected children under ten years of age in any district, represents the liability of immigrants to contract malaria. It is shown by an elaborate and painstaking research carried out in India by the authors to depend on the kind of anopheles present.

Full directions are given for making a malarial survey of a district and for mapping out the results.

The clinical study of malaria is described in full—examinations of the blood, cellular counts, determination of isotonic point, &c. ; of the urine chemical, spectroscopic, and the method of detecting quinine in this secretion. Directions for determining the periodicity of development of each of the malarial parasites are given, and illustrated by a good chart.

The action of quinine is fully considered. As regards the much-vexed question of the nature of blackwater fever, the authors say : “Blackwater fever is then a quinine intoxication ; but it is something more. It occurs only in those who have previously suffered from malaria, and, in fact, there is considerable evidence to show that it occurs frequently in *direct association* with a malarial infection.”

“It is not the quinine, *per se*, but a condition of blood in

the particular malarial patient which is the determining factor whether quinine will produce an attack."

"We would only add, finally, that it is quite illogical to abstain from quinine in malaria, on the contrary, its *adequate* administration would prevent the occurrence of these attacks."

Besides the malarial organisms, the authors describe many other blood parasites, as the Hæmogregarina and the Piroplasma, to which last genus belong the parasites of Texas cattle fever, South African horse disease and "spotted fever" of man. As many of these are transmitted by ticks, these insects are described in considerable detail.

There is a section on the yellow fever organism and its life-history in *Stegomyia fasciata*.

The trypanosomata and the Tsetse flies are described, and two good coloured plates show the trypanosomata as met with in the blood of man and animals.

The last chapter is devoted to the filaria, the embryos of eight species of which have been found in human blood.

In an appendix the blood-sucking flies and fleas are described. Formulæ for stains, hardening fluids, and other reagents are given, with tables of weights and measures, and lists of apparatus, with their cost.

From this brief notice it will be seen the enormous amount of information which is contained in this small volume. We think that, perhaps, the matter might have been somewhat better arranged, and a fuller table of contents, with references to the pages, would have been advantageous. There is, however, a good index, and besides three coloured plates there are numerous figures in the text. On the whole the work is one calling for almost unqualified praise.

Diseases of the Nose and Throat. By CHARLES HUNTOON KNIGHT, A.M., M.D. London: Rebman. 1903. Pp. 416.

THE author states in the opening sentence of his preface that "the contents of the following pages have formed the basis of a course of lectures at Cornell University Medical College, and have been arranged chiefly for the convenience of students."

This is well borne out in the arrangement, and enables a

student to find quickly an account of the particular disease he may require to look up. The work is well up to date, and is easy to read, not too dogmatic but clear and happily expressed, though on this side of the water the American idioms are not always agreeable.

Briefly, the arrangement is as follows:—Nose, pharynx, &c., and larynx, each part commencing with the anatomy of that particular region, shortly and simply put; then an account of the physiology; next, methods of examination; and then the commonest diseases; and lastly, short notes on those forms of diseases which are rarely seen. His remarks on ætiology are particularly good for a learner, as there is enough to show the trend of opinion without that full detail which would only weary a non-specialist reader. Old-fashioned and out-of-date theories and methods of treatment are omitted, and long accounts of operations which, from their nature, would be performed only by specialists, are passed by with sufficient notice to show their importance and proper proportion without the technical details, which the reader would hardly need.

Common sense is the key-note of the treatment recommended, and practicability is what is kept before the reader's mind.

The illustrations are on the whole well chosen, and are sufficient for their purpose, and the type, &c., all that could be desired.

The book can be recommended with confidence to all who need a short and easily-read book, and may be safely given to students, as its teaching is to the point and will not mix in their minds the many wonderful theories with those which have stood the test of examination.

Scott's Emulsion Doctor's Diary and Emergency Note-Book for 1904. London: Scott & Bowne, Ltd., 10-11 Stonecutter street, E.C.

THIS is a legitimate and useful advertisement of a well-known preparation of cod liver oil, which is not a quack remedy. As a matter of fact the formula of "Scott's Emulsion" is given as follows in the Diary:—Pure Norwegian oil, 44 per

cent.; glycerine, 16 per cent.; hypophosphites of lime to each fluid ounce, 6 grains; hypophosphite of sodium to each fluid ounce, 3 grains.

The opening pages, 1 to 48, contain much valuable information, including lists of consumption sanatoriums, lunatic asylums, inebriate homes, emergency addresses, and a brief article on modern embalming, with a full list of embalmers resident in various English cities and towns. On the back of the cover is a four inch scale; and also a ten-centimetre scale is given for comparison.

The note-book is of convenient size, and can be carried even in a vertical waistcoat pocket.

RECENT WORKS ON MASSAGE.

1. *A Treatise on Massage: Its History, Mode of Application and Effects, Indications and Contraindications.* By DOUGLAS GRAHAM, M.D., of Boston, Massachusetts; Member of the American Association for the Advancement of Science, of the American Medical Association, of the Massachusetts Medical Society, &c. Third Edition. Revised, Enlarged, and Illustrated. Philadelphia and London: J. B. Lippincott Company. 1902. 8vo. Pp. 462.
2. *A Manual for Students of Massage.* By MARY ANNE ELLISON, Member of the Incorporated Society of Trained Masseurs. Second Edition. Revised by GULIELMA MANLEY, Member of the Incorporated Society of Trained Masseurs. London: Baillière, Tindall & Cox. 1904. Demy 8vo. Pp. xii. + 126.

1. DR. GRAHAM'S book is now too well known to the professional world to require the application of detailed criticism to its third edition. As the author points out, with honest pride, the first issue, which saw the light in 1884, was the first volume published on this subject in the English language. What a change has since then come over the face of the medical literature of the whole civilised world; and what a special (revolutionary) epoch did Dr. Graham inaugurate! As he himself truthfully and impressively puts it: "The history of massage is coeval with that of mankind, and worthy

of being preserved ; its mode of application can be cultivated as an art second to none that the human hand can perform, having a harp of more than a thousand strings on which to play ; its range of usefulness is increasing all the time, and has long since extended into every special and general branch of medicine, so that he who would keep pace with its developments must be well informed in all departments of the healing art." Every scientific physician is conscious of the truth of this estimate of the present position and scientific basis of the practice of massage. Pooh-poohed by many at first, it is now one of the special weapons of the medico-chirurgical armamentarium, with every assurance of continuing so to be. We congratulate Dr. Graham on the use which he has made of his stewardship, and the result which he has attained.

In the preface to the present edition he informs his readers, in the true and unmistakable tone of the philosophic physician, that : " This book is written from the standpoint of the physician and practical *masseur*, from that of theory and practice, of faith and works. From any other point of view it would have been as one-sided and useless as if an architect who had never learned the use of tools should try to teach carpentry, or as if a carpenter who had never studied architecture should try to teach drawing and planning." We sincerely wish—although present experience still forbids us to hope—that all future writers in the various departments of medicine and surgery would go and do likewise when taking upon themselves the very responsible function of preparing special manuals for the instruction of their brethren.

In the preparation of this third edition the author has brought his extended experience to bear on the illumination of the whole—with the necessary consequence of addition, subtraction, and alteration—major and minor. He has also added eight wholly new chapters. Accordingly, the work now before us represents a complete body of the doctrine of massage in all the departments of its theory and practice, by its earliest (and still, probably, its best) English exponent.

2. This small volume represents a praiseworthily ambitious effort to place before the beginner who is entering upon the study of the mysteries of massage the maximal amount of

desirable elementary knowledge in the minimal amount of space. It is based upon practical experience of teaching. The authoress tells us that it embodies what she has herself found useful for grounding pupils in the art of massage. She certainly has succeeded in giving a very comprehensive bird's-eye view of a very extensive area, crammed with hard scientific facts.

There is a great deal of information—excellently suited to the commencing student—in this little manual. The amount of material dealt with is really enormous; a vast number of facts is either fully grasped or lightly touched. The aim is practically all-embracing, and we are sometimes tempted to call out, "Let go half the nuts, and then try;" but no, we can't! The effort shows a transparent honesty throughout, and we cordially recommend this volume to the attention of every commencing student of massage.

RECENT WORKS ON NURSING.

1. *The Home Nurse: A Hand-book for Sickness and Emergencies* (formerly known as "Sick Nursing at Home"). By S. F. A. CAULFIELD, "Lady of Grace" Order of St. John of Jerusalem in England. Third Edition, much Enlarged. Paternoster-row, E.C.: Elliot Stock. 1903. 8vo. Pp. 173.
2. *Gynæcological Nursing*. By NETTA STEWART, Sister in the Extra-mural Gynæcological Wards of the Royal Infirmary, Edinburgh. Edinburgh: Oliver & Boyd. London: Simpkin, Marshall & Co., Ltd. 1903. 8vo. Pp. 174.
3. *Burdett's Official Nursing Directory*, 1903. Fifth Year. London: The Scientific Press. 8vo. Pp. 439.

1. MISS CAULFIELD here gives us a valuable epitome of her wide practical experience in home nursing, and her book will be studied with great interest and advantage by those who, when illness invades the family circle, dispense with the services of a trained nurse. The highest tone pervades the work. The instruction given throughout is excellent, and we have gone through its pages with great pleasure. At the same time we must caution amateurs to avoid such

operations as giving hypodermic injections, which are undertaken by experienced *nurses* with the utmost caution.

2. Nurses will benefit much by the study of Miss Stewart's modes of preparation for various operations and after-treatment of the special cases under consideration in this little volume. The work savours of the up-to-date source from which it emanates, and is well worthy of being placed on the list of nurses' handy books of reference.

3. We are sorry to find that Sir Henry Burdett's Nursing Directory is not increasing in popularity amongst nurses. We still miss many of the best names in the profession, and the work can in no sense be looked upon as having fulfilled its object. This is to be regretted ; and we again deplore the difficulty always experienced by those who attempt to arouse professional enthusiasm among nurses. All certificated nurses should, *even now*, send in their names, and make the Directory, intended for their benefit, a success. On referring to its pages for information during the last month, we found the name we looked for opposite a post she had vacated six years ago. This we know to be the nurse's own fault, as papers are sent out regularly for revision ; but if only a few nurses are to be found on the roll, and the information given is unreliable, the value of the work becomes doubtful.

A Text-Book of Operative Surgery : Covering the Surgical Anatomy and Operative Technic involved in the Operations of General Surgery. Written for Students and Practitioners. By WARREN STONE BICKHAM, Phar. M., M.D. ; Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York ; late Visiting Surgeon to Charity Hospital, New Orleans ; late Demonstrator of Operative Surgery, Medical Department, Tulane University of Louisiana, New Orleans. With 559 Illustrations. Philadelphia, New York, and London : W. B. Saunders & Co. 1903. Pp. 984.

THE volume before us is one of the many placed before the profession by our surgical *confrères* on the other side of the

Atlantic. The object the author desires to carry out is that of placing before the reader as clearly and briefly as possible the surgical anatomy and various steps of each operation performed in general surgery. A student, or general practitioner who is not accustomed to operating daily, but who may at times be called upon to perform an operation to save life, in case of emergency, can by referring to a work like this make himself acquainted with the anatomical landmarks and technique of any operation in a very few minutes.

The illustrations are numerous, for the most part clear and instructive, while the large majority are original. The book is somewhat ponderous, but the amount of matter it contains necessitates a large volume. The description of some of the operations is certainly too brief for one who has not seen them done before to appreciate thoroughly and to render him capable of performing them to the utmost advantage to his patient.

The book is one which should be a valuable addition to the stock of the student and general practitioner.

The Dublin University Calendar for the Year 1903-1904.

Vol. I. Dublin: Hodges, Figgis & Co. 1903. 8vo. Pp. (68) + 377.

IN Hilary Term, 1900, the Board of Trinity College arranged that in future the Calendar should consist of three volumes, to be published at various dates. Volume I.—that which lies before us—is published each year during the Long Vacation. It contains full information as to the ordinary and honour courses in Arts and in the Professional Schools. In it also the undergraduate ordinary examination papers are printed.

Volume II. is published as soon as possible after the 1st of January in each year, and contains the results of ordinary and honour examinations held in Arts and in the Professional Schools, and the degrees conferred during the past year; also the lists of students on the College Books, of the Senate, the University Electors, and the College Officers.

Volume III. is a special volume published from time to time as the Editor of the Calendar may think fit. This volume was last published in July, 1901. Whether this

arrangement is the best is certainly open to question. At all events, the contents of Volumes I. and II. should, if possible, be accessible at the same time, and within the same cover.

In addition to the foregoing, "The Supplement to the Calendar" is published as soon as possible after the 1st of January in each year. It contains the papers set at the honour examinations in Arts and at the Examinations in the Professional Schools. Medical students will find full information as to the regulations of the "School of Physic in Ireland," as the Medical Faculty of the University of Dublin is called, at pages 203 to 230.

The Calendar is clearly printed and neatly bound, and the Editor, Mr. M. W. J. Fry, M.A., F.T.C.D., is to be congratulated on the success of his editorial labours.

RECENT PUBLICATIONS ON DISEASES OF CHILDREN.

1. *Golden Rules for Diseases of Infants and Children.* By GEORGE CARPENTER, M.D. (Lond.), M.R.C.P.; Assistant Physician at the North Eastern Hospital for Children; late Physician at the Evelina Hospital for Sick Children; Hon. Sec. the Society for the Study of Disease in Children; Editor of the "British Journal of Children's Diseases." Golden Rules Series No. XI. Second Edition, enlarged. John Wright & Co.
2. *The Natural and Artificial Methods of Feeding Infants and Young Children.* By EDMUND CAUTLEY, M.D. Cantab., F.R.C.P. (Lond.); Physician to the Belgrave Hospital for Children; Assistant Physician to the Metropolitan Hospital, &c., &c. Second Edition. London: J. & A. Churchill. 1903. Pp. 418.
3. *The Nutrition of the Infant.* By RALPH VINCENT, M.D., M.R.C.P.; Physician to the Infants' Hospital; late Senior Resident Medical Officer, Queen Charlotte's Lying-in Hospital. London: Baillière, Tindall & Cox. 1904. Pp. 313.
4. *The Physiological Nursery Charts.* Designed by ERIC

PRITCHARD, M.A., M.D. (Oxon.), M.R.C.P. (Lond.). Henry Kimpton. 1903.

5. *Reports of the Society for the Study of Disease in Children.* Vol. III. 1902-1903. Edited by GEORGE CARPENTER, M.D. London: Churchill.
6. *Transactions of the American Pediatric Society.* Vol. XIV. Reprinted from the Archives of Pediatrics. Edited by WALTER LESTER CARR, M.D. 1902.
7. *Transactions of the American Orthopædic Association.* Vol. XV. With lists of published writings of the Members, and references to Orthopædic Surgery. Philadelphia. 1902.
8. *Sight and Hearing in Childhood.* By ROBERT BRUDENELL CARTER, F.R.C.S.; Consulting Ophthalmic Surgeon to St. George's Hospital; and ARTHUR H. CHEATLE, F.R.C.S.; Assistant Aural Surgeon to King's College Hospital; Surgeon to Royal Ear Infirmary. London: The Scientific Press. Pp. 120.
9. *Simple Rules for Preventing Infantile Complaints and Deaths among Infants.* By J. T. C. NASH, M.D., D.P.H.; Medical Officer of Health, Southend-on-Sea. Bristol: John Wright & Co.

1. WE are glad to welcome Dr. Carpenter's little volume in a second edition. To write a compendium of diseases of children in a pocket size, in good print, is a task of no little difficulty. Dr. Carpenter is to be congratulated on the way in which he has accomplished it. A pocket-guide is produced of real value, which bears internal evidence of the author's special knowledge of the subject. In the first edition we noticed a few omissions which deserved recognition, and we are glad to see Dr. Carpenter has incorporated many of them in this issue. We still would like to see some explanation of "tabes mesenterica"—a term which confuses many, in his paragraphs on Tuberculous Peritonitis. Some notes of idioglossia, Friedreich's disease, and a paragraph on the ataxies of children, would enhance the value of the book. There is a good index. The sections treating of the several systems might, with advantage, be more clearly defined, or divided into chapters which would facilitate reference; but these are details in arrangement rather than errors in matter.

We think Dr. Carpenter's little volume should be in many practitioners' pockets, for in a small compass a large amount of the soundest information will be found. The healthy-minded soundness of Dr. Carpenter's views is the chief feature of the volume.

2. After a space of six years Dr. Cautley issues a second edition of his work on Infant Feeding. Though several modifications in the work have become necessary, the volume is but slightly enlarged, and the print has been a little improved. It is a most comfortable book to read, and is excellently produced by Messrs. Churchill. In common with those who have much experience of its disadvantages Dr. Cautley does not highly commend the American system of percentage feeding. He says: "The advantages along this line have been chemical rather than clinical, and the attempt to treat the infant's stomach as a test-tube has not proved altogether successful."

He is right when he considers these complicated formulæ alarming, unwieldy, and unnecessary. To any who have studied the difficult subject of infant mortality it is abundantly clear that it is most closely connected with feeding and food disorders; therefore a thorough knowledge of the subject is essential. After an introduction, excellent chapters follow on—"The Chemistry of Infantile Dietetics;" "Human Milk, Cow's Milk, and the Milk Supply," and "Micro-organisms in Milk." The whole subject, one of great difficulty, is handled in a thoroughly sound manner, and an amount of research evinced before conclusions are drawn. It ranks as, perhaps, our chief English text-book on this important and difficult question, and should be in the hands of all those who are called upon to deal with infantile disorders.

3. Dr. Vincent in this volume goes well into the subject of infant feeding. Chapters are given on human milk, lactation, cow's milk, and artificial feeding. This portion comprises the greater part of the work. With some of Dr. Vincent's conclusions we do not agree. The American system of percentage feeding, which has been tried for some years, is not proving the unmixed blessing it was held to be. Those who have had

large experience of it have much fault to find with it. Dr. Vincent advocates strongly the use of whey in cream mixtures for infants, and gives elaborated formulæ to make humanised milk. Whey is a most deceptive food, and even when mixed with cream does not contain sufficient proteid to maintain nutrition. Many valuable hints are given, however, in the book. The paragraphs on cow's milk and the milk supply are very instructive.

In the latter half of the volume some of the diet diseases or food disorders are described. Dyspepsia and diarrhoea are dealt with sensibly, though shortly. A description of marasmus follows, in which Ruhrah's recent views as to thymus atrophy being the cause are alluded to. Short chapters on rickets and scurvy complete the volume.

The book is a useful addition to the literature of diseases of children, more, however, from the author's sound absorption of other teachers' views than from any marked originality on his part. It is beautifully printed and bound.

4. This is an admirable chart, about 2 feet square, with top and bottom rollers for suspension in nurseries. It contains excellent information:—Weight charts up to the end of the third years; directions for feeding infants for the first twelve months; methods of preparing modified milk; indications that food is not agreeing; and on the back, "What to do in sudden illness;" "what to do in case of poisoning;" dentition tables; and some useful aphorisms. Dr. Pritchard's idea is excellent, and every nursery should possess his chart. We are glad that no patent foods are permitted, good, fresh cream and milk only used, and sterilisation advocated. If we have any fault to find it is in the large quantity of cream advocated necessitating expense; and also the strengths of most foods given are rather weak. For instance, a child is to be 8 months old before a strength of equal parts food and diluent is allowed. These are, however, faults on the side of caution, and tend to correct the chief dangers in artificial feeding—namely, overfeeding and lack of cream.

5. This third report of the above new Society is in every way an improvement on its predecessors. Handsomely bound,

well printed, and containing admirably reported proceedings, it is a compendium of some of the most interesting diseases of children. The Society numbers 285 members, and they hold their meetings usually in the Medical Society's rooms in Chandos-street. The reports are, in nearly all cases, those of clinical exhibits before the Society.

In this volume interesting papers are found on "Splenic Hyperplasia," termed von Jaksch's disease, which, *en passant*, we may claim to be correctly Battersby's disease; for Dr. Francis Battersby, of Dublin, first described it in 1849 in the "Dublin Quarterly Journal," over thirty years before von Jaksch. There is a special report on "Tuberculous Peritonitis," which was admirably handled at a special meeting of the Society. The ætiology is dealt with by Dr. Cautley; symptoms and diagnosis by Drs. Barr, Parkinson, and Carpenter; pathology by Drs. Fisher, Chaffey and Carpenter; and its treatment by Drs. Guthrie, Carmichael, Carpenter, and Watson Cheyne.

Other interesting papers are found on "Dilatation of the Stomach;" "Cerebellar Tumour;" "Splenomegaly," an excellent contribution by Dr. George Carpenter; "Primary Pneumococcal Meningitis;" "Diphtheria of the Œsophagus and Stomach;" and "Scurvy and Craniotabes."

In every way these reports are valuable, and the volume is an admirable contribution to the literature of this branch of medicine.

6. In these Transactions some excellent papers are found. They are the proceedings of a Society for the Study of Disease in Children, which meets annually in various American cities, somewhat after the manner of The British Medical Association, a different place being chosen for each session (Washington, Boston, New York, Niagara, &c.). The Society numbers but 53 members, but they are mostly well-known authorities on this branch of medicine—Osler, Koplik, Holt, Jacobi, Starr, and Stengel, amongst others.

Amongst the most interesting papers are those on "Rheumatic Children," by Crandall; "Tuberculous Peritonitis," by Rotch; "Renal Decapsulation" in Chronic Bright's Disease, by Caille; "Septic Endocarditis," by Adams; and "Sudden Death from Enlarged Thymus," by Caille.

The Transactions are clearly printed, and the discussions are well reported. This volume contains a very useful index to Vols. I.-XIV., inclusive. Many interesting cases will be found within its pages.

7. This is the largest volume of these Transactions which has been issued, containing numerous papers on Orthopædic Surgery. Among those of special interest we notice contributions on "Cerebral Diplegia and Hemiplegia," by Robert Jones, F.R.C.S.; "Neuroses as seen in Orthopædic Practice," by B. E. Mackenzie, of Toronto; and a very valuable paper on "Infantile Paralysis," an epidemic of thirty-eight cases, by Charles Y. Painter, of Boston. This latter is of great value, and well worth careful study. The cases are clearly detailed, and form a reliable contribution to the pathology of this disease.

8. The fact that many children are heavily handicapped in school-life by impediments which stand at the very gates of knowledge—i.e., defects in sight and hearing—demands such a volume as these writers have produced. It should be widely read. Whether a child can see and hear properly should be one of the first questions on commencing study. In 1895 Mr Carter examined 8,125 children under the London School Board, and found only 39.15 per cent. with normal sight in both eyes; 39.7 with subnormal sight in both eyes; 12.5 with right eye normal and left subnormal; and 8.6 with normal left, but abnormal right.

This volume is a series of excellent chapters on vision and hearing. It is intended for lay as well as professional readers, and is admirably clear and sound. The causes, consequences, and treatment of defective vision are concisely put before the reader; not only for the public services, military, sea-faring, or civil employ, but also in young children defects of sight and hearing demand careful examination, as they are fertile sources of harm.

Mr. Cheatle contributes a most excellent chapter on the ear, and points out that amongst school children there are "twice as many with defective hearing among the backward children as among the forward children." The skilled examination of school children should be regularly carried out in this country.

In New York there has been a daily inspection, with the result that in the first week no less than 4,700 children, out of an average daily attendance of 201,262, were excluded for measles, diphtheria, scarlet fever, contagious eye diseases, pediculosis, &c. As Mr. Cheatle points out, "These figures clearly demonstrate what nurseries of disease public schools may be, and how necessary it is that all schools should be medically controlled." There is a sound practical chapter on "The Care of the Ears in Childhood."

We highly commend these essays to both lay and professional readers.

9. This is a leaflet of 8 pages for public distribution. It is safe, simple and useful. The directions are clear and the advice sound. The food recommended is well adapted to the needs of infancy, and it may with advantage be circulated amongst the community. The author wisely insists on the addition of cream in the process of humanising cow's milk, for its omission frequently causes rickets and scurvy. In pamphlets of this kind no patent food should be specified as a substitute for fresh milk, and we disapprove the mention of one in particular. On the whole the leaflet has been compiled with tact and judgment, but it would be more useful if it had been printed on one sheet of paper.

The Purin Bodies of Food Stuffs and the Role of Uric Acid in Health and Disease. By I. WALKER HALL, M.D. Second Edition (revised). London and Manchester: Sherratt & Hughes. 1903.

THE chemico-pathological relations of uric acid are still a *questio vexata*, and widely divergent views are held as to the part which uric acid plays in reference to gout and sundry other diseases.

The precise mode of origin of uric acid is still unknown; but, so far as diet is concerned, its formation appears to be directly dependent upon the nucleins and xanthins contained in the ingesta.

Now these different xanthins and nucleins are built around a common nucleus, termed purin, = $C_5 N_4$ (E. Fischer).

About 12 different combinations of this purin nucleus are known to exist in nature, but not less than 146 have been produced in the laboratory.

The purin bodies of ordinary occurrence are :—(1) Hypoxanthin, $C_5H_4N_4O$; (2) xanthin, $C_5H_4N_4O_2$; (3) uric acid, $C_5H_4N_4O_3$; (4) guanin, $C_5H_5N_5O$; (5) adenin, $C_5H_5N_5$; (6) caffen, $C_5H N_4O_2 \cdot (CH_3)_3$; (7) theobromin, $C_5H_4N_4O_2 \cdot (CH_3)_2$.

Theobromin and caffen have not been made artificially. E. Fischer draws a picture of the time when the present coffee adulterants, chicory and coffee-surrogate, will be superseded by synthetically made caffen, and a cup of refreshing drink will be prepared by simply dissolving a small powder in hot water.

The term "alloxuric bodies" has been also applied to the purin group, because they may be regarded as derivations of alloxan and urea.

Dr. Hall's object in undertaking the investigations embodied in the book under review was to obtain further information as to the action of purin bodies and their metabolism, and to discover some means whereby the early pathological changes in certain metabolic disorders may be detected.

The author describes and figures a simple instrument termed "The Purinometer" for the quantitative estimation of purin bodies in clinical and physiological work.

The purin bodies are thrown down as a silver precipitate, but for details of the process we must refer to the text.

A summary of the author's results is given in Chapter XI. While the experimental data will doubtless be found useful in future work, no very important or novel point appears to us to be made out as regards dietetics or therapeutics.

Portfolio of Dermochromes. By PROFESSOR JACOBI. Edited by J. J. PRINGLE, M.B. London: Rebman. 1903.

In a previous number of this Journal we had the pleasure of expressing warm approval of Parts I. and II. of Jacobi's fine Atlas. We have now before us Parts III. and IV., which complete the work. The excellence and realistic beauty of the illustrations are fully maintained, and we again strongly commend

this portfolio of plates to the goodwill of our readers, and advise all who can afford the very moderate price to purchase it.

An index is now supplied.

No one can fail to learn much by a careful study of these beautiful plates, along with the brief, but pointed, text which accompanies them.

Dr. Pringle has carried out his part as editor with complete success.

Most of the skin affections are briefly described; but eczema and syphilis are discussed at greater length, and the treatment is explained in detail.

The text is, as a rule, free from errors, but we noticed a few slips—*e.g.*, auditory *meati*, and echthyma.

Recherches Expérimentales sur la Pathogénie de l'Ictère. Par le
DR. GEORGES JOANNOVICS. Bruxelles: Hayez. 1903.
Pp. 61.

THIS able essay has been awarded a prize of 1,000 francs by the Belgian Royal Academy of Medicine, and is published by that distinguished body in its *memoires*.

The author records a number of experiments made principally on dogs, but also on cats and rabbits, in which he injected either toluylendiamine or a hæmolytic serum got "*par l'immunisation du lapin avec des globules rouges du chien*;" or by injecting into rabbits the pulp of the liver of the dog. The animals experimented on were sometimes normal, sometimes they had undergone a previous removal of the spleen, sometimes ligature of the common bile duct, and in some cases had had an anastomosis established between the portal and caval veins (fistula of Eck).

In poisoning, both by toluylendiamine and by hæmolytic serum, the jaundice is due to an increased secretion of bile, formed in the liver from the pigment of broken down red corpuscles. This superabundant bile bursts the intralobular duct and finds its way, by the lymphatics, into the general circulation. That the jaundice is not due to lesion of the hepatic cells is shown by the absence of such lesion in cases treated by the first kind of hæmolytic serum, although the cells show changes in animals treated with toluylendiamine.

There is, however, a remarkable difference in the way the broken down pigment reaches the liver in the two cases. In toluylendiamine poisoning the corpuscles undergo, it is true, changes in the circulation, but their destruction takes place in the spleen. Here the pigment is taken up by cells which convey it to the liver, and which can be seen in the hepatic blood vessels. If the spleen has been previously removed this destruction does not occur, and the animal does not suffer from jaundice. The same is true in cases where an Eck's fistula has been established.

The hæmolytic serum, on the other hand, dissolves the corpuscles in the circulating blood, and the pigment is carried in solution to the liver. So the ablation of the spleen does not make the animal more resistant, but after this operation death is even more rapid than in normal animals.

There is another difference between animals with, and those without, spleen. In the former, and in those with venous fistula, hæmolysis is followed by hæmoglobinuria, while in the absence of spleen this symptom does not occur either in dogs poisoned by serum or cats poisoned by toluylendiamine.

It was found that when the common bile duct is tied a much smaller dose of toluylendiamine is necessary to cause jaundice and death than is the case in intact animals.

Chronic poisoning by small doses of toluylendiamine causes lesions in the hepatic cells, which are followed by a proliferation of the connective tissue, comparable to that found in cirrhosis of the liver.

The Prevention of Consumption. By ALFRED HILLIER, M.D., C.M., B.A.; Secretary of the National Association for the Prevention of Consumption (London); Member of the Council of the International Association for the Prevention of Tuberculosis (Berlin); Visiting Physician to the London Open-Air Sanatorium. Revised by PROFESSOR R. KOCH. With Illustrations. London: Longmans, Green & Co. 1903. Pp. 226.

DEALING with tuberculosis as a great social problem this work should appeal not only to medical men but also to legislators, local authorities, and intelligent citizens generally.

Indeed it is chiefly for the latter classes that the book has been written. The clinical and therapeutic aspects of the subject have been purposely omitted, while science has been appealed to, chiefly to indicate the fundamental basis on which the author's statements rest.

Dr. Hillier traces the history of phthisis from the time of Hippocrates to the demonstrations of Klencke in 1843, and of Villemin in 1863, and thence to the culminating discovery of the tubercle bacillus by Koch in 1881.

He shows that the infectiousness of phthisis was recognised in the time of Aristotle, and that it was known to Galen and others of the Greek physicians. Passing to the middle ages the work of Sylvius (1614-1672), in demonstrating the connection between tubercles and phthisis, is dealt with, and the English writers, Lazarus Raverius (1638), and Morton (1689), are quoted to show the prevalence of the belief in the infectiousness of the disease in this country, a belief which, under the influence of Valsalva and Morgagni (1697-1748), was also held by the mass of the people in Italy. This chapter, which is of fascinating interest, is enlivened by references to mediæval efforts to deal with the tuberculosis problem and to the influence exerted by the disease on Art, as shown in the works of Botticelli and Rossetti.

The chapter on infection contains the root of the matter—the conveyance of the disease from man to man through tuberculous sputum and tubercle laden cough-spray, recent experiments regarding the latter point being given very fully.

The relation of bovine to human tuberculosis is dealt with impartially, the arguments of both parties in the controversy being clearly stated; the author merely insisting that the question is one of minor importance to that of the conveyance of the disease from man to man.

The chapters devoted to personal precautions, public action, and sanatoria, deal lucidly with the chief methods which may be employed to prevent the disease.

The illustrations are numerous; most of them have from time to time appeared in *Tuberculosis*, the Journal of the National Association for the Prevention of Consumption, while two of Köhler's charts are also reproduced.

The appendix contains reprints of the pamphlets issued by

the London section of the National Association, also notes on State insurance for workmen in Germany, instructions issued by the Board of Health of Boston, Mass., and other matters of a like nature.

The work is published under the *imprimatur* of Professor Koch, who contributes an introduction, in which he states that "the book in all respects represents the latest scientific views, which are so clearly expounded that every intelligent reader can derive instruction from them."

We think that the work should aid materially in the formation of a healthy public opinion on this important question.

The Edinburgh Medical Journal. Edited by G. A. GIBSON, M.D., F.R.C.P. Ed.; and ALEXIS THOMSON, M.D., F.R.C.S. Ed. New Series. Vol. XIV. Edinburgh and London: Young J. Pentland. 1903. 8vo. Pp. xxxvi + 572.

A NOVEL and useful feature in the present volume is the arrangement by which the article on "Medical Education in the United Kingdom" is placed in the forefront of the book, although it really formed part of the October number of the *Journal*.

Following the practice of recent years each monthly number opens with editorial comments on important current topics. This section is followed by original communications, many of which are splendidly illustrated; reviews of British and foreign literature; notes on books; reports on recent advances in medical science; reports of the medical societies; analytical reports; and occasional obituary notices.

Among the many "Original Communications" in this volume, we observe two notable "Addresses." Of these the first is the very learned "Introductory Address to the Class of Anatomy in the University of Edinburgh," delivered on October 13, 1903, by Professor D. J. Cunningham, M.D., D.Sc., D.C.L., LL.D., F.R.S. The second is the "Valedictory Address, delivered before the Medico-Chirurgical Society of Edinburgh on the 4th of November, 1903," by Professor Sir Thomas R. Fraser, M.D., F.R.C.P. Ed., President of the Society.

An interesting paper on a case of "meralgia paræsthetica."

by Mr. Edwin Bramwell, Assistant Physician to Leith Hospital, is contributed to the July number (page 26, *et seq.*). Bernhardt, in 1895, described five cases of paræsthesia limited to the distribution of the external cutaneous nerve. All the patients were middle-aged men, and in all the symptoms were unilateral. The general health in every case was excellent. The patients all complained of abnormal sensations, chiefly a feeling of numbness on the front and especially the outer side of the thigh. Actual pain was experienced in this area after walking, or when it was pressed upon. There was a slight degree of objective sensory disturbance, scarcely amounting to a true anæsthesia, and strictly limited to the distribution of the external cutaneous nerve of the affected leg. There was no weakness of the leg, and no disturbance of the sphincters. Typhoid fever, lead poisoning, and cold douching appeared to be ætiological factors of importance in three cases.

Bernhardt was of opinion that the symptoms were dependent upon a more or less severe neuritis of the external cutaneous nerve. As regards treatment, he considered rest of importance, while warm baths, massage, and the faradic brush had, he thought, a beneficial influence.

A few months after the publication of Bernhardt's paper, a monograph on the subject, by Roth, of Berlin, appeared under the name of "*Meralgia Paræsthetica*." Roth described fifteen cases. During the three succeeding years, no fewer than nine original articles on the subject appeared in the *Neurologisches Centralblatt*, Leipzig, alone.

Treatment is usually unsatisfactory. In Mr. Bramwell's case, Mr. Alexis Thomson resected the affected nerve on January 30, 1902. The patient remained free from pain for a month after operation, but the pain afterwards returned, and, when the case was reported, was almost as bad as formerly.

Catechism Series. Physics. Part II. Edinburgh: E. & S. Livingstone. 1903. Pp. 80.

THIS "Part" of the "Catechism Series" includes Heat, Wave-Motion, Light, Magnetism and Electricity. A great deal of information is contained in the eighty pages of question and answer of which the book consists. We have already

expressed our general opinion of the Catechism Series, and we have only to add that the present is a good specimen of the publication.

Modern Surgery : General and Operative. By JOHN CHALMERS DA COSTA, M.D.; Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. Fourth Edition, rewritten and enlarged. With 707 Illustrations, some of them in Colours. Philadelphia, New York, and London : W. B. Saunders & Co. 1903. Pp. 1099.

BUT three years have elapsed since the third edition of this book was reviewed in this Journal. To have a new edition called for so soon speaks well for the favour with which the author's efforts are received by the profession. To say that the present edition is rewritten and enlarged is no loose and empty statement, as can be verified by its perusal. Though the actual number of pages is less by some 8 or 10, still, when we consider that the size of the page is increased by about one-fourth, and that the number of illustrations is increased from 493 to 707, it becomes apparent that the present volume is practically a new treatise.

Almost every point to which we drew attention in our review of the previous edition as requiring improvement has been revised—notably the chapter on tumours, the section on rickets, the surgery of the gall-bladder and bile ducts, while the section on diseases of the pancreas is brought well up to date.

There is one section which we should like to see improved in a subsequent edition—viz., that on diseases of the mouth and tongue, which is most inadequate for modern requirements. The illustration given as Kocher's procedure for the removal of the tongue is that of his older method, while, of course, it is well known he has since very considerably modified this operation. We can congratulate the author on the success attending his efforts in the production of a reliable "modern surgery," and can favourably commend the book to every student.

PART III.
MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR THORNLEY STOKER, M.D., F.R.C.S.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF MEDICINE.

President—SIR ARTHUR V. MACAN, M.B., Pres. R.C.P.I.
Secretary—R. TRAVERS SMITH, M.D., F.R.C.P.I.

Friday, November 20, 1903.

THE PRESIDENT in the Chair.

Exhibitions.

DR. TRAVERS SMITH showed a boy with a peculiar intra-thoracic murmur, due to enlarged mediastinal glands.

DR. TRAVERS SMITH also showed a girl, the subject of erythema marginatum perstans of the face. Details of both cases will be published later.

The Treatment of Enteric Fever.

SIR JOHN MOORE read a paper on this subject. He touched on only the following points, which had made a fixed impression upon his mind as a result of an experience extending over many years :—(1) The sanitary housing of the patient ; (2) the relation of diarrhoea to early purgation ; (3) antipyresis generally uncalled for ; (4) management of the bowels and intestinal antisepsis ; (5) intestinal hæmorrhage ; (6) perforation, under which heading the surgical treatment of this deadly complication was illustrated by notes of five cases which had occurred in the practice of his colleague, Mr. William Taylor, F.R.C.S.I. ; (7) diet in the closing stages of the fever. In conclusion, the author warned young physicians against the perilous error of adopting a routine treat-

ment of enteric fever, particularly in the matter of alcoholic stimulants. The attitude of the physician who is in attendance upon a patient in enteric fever should be that of "watchful, intelligent and armed expectancy." We should not forget that enteric is a self-limited disease, which in perhaps a majority of cases tends to run its appointed periodic course without mishap, the essential symptoms having "kept the noiseless tenor of their way." There is, in fact, no malady in which it is so desirable to avoid what has been well termed the "*nimia diligentia medici*."

The paper gave rise to a long and lively discussion. Among the speakers were DR. J. M. DAY, DR. H. C. DRURY, DR. BURGESS, DR. CRAIG, MR. WILLIAM TAYLOR, DR. G. PEACOCKE, DR. S. M. THOMPSON, DR. LITTLE, DR. POLLOCK, DR. M'VITTIE, DR. O'CARROLL, and DR. W. J. THOMPSON.

SIR JOHN MOORE replied.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—ALFRED J. SMITH, M.B., F.R.C.S.I.

Secretary—T. HENRY WILSON, F.R.C.P.I.

Friday, November 27, 1903.

The PRESIDENT in the Chair.

Exhibits.

DR. SMYLY showed an interesting fibro-cyst of the uterus and a sarcomatous tumour which occurred at the seat of operation six years after an ovariectomy.

The PRESIDENT showed a specimen of tubal pregnancy strangulated by torsion of the pedicle.

The Effect of the Midwives Act of 1902 on Irish Training Institutions and Nurses.

The PRESIDENT, in an Inaugural Address on this subject, pointed out the grave injustice that had been done to our midwifery hospitals and to our Irish-trained midwives by the regulations drawn up by the Central Midwives Board under the Midwives Act of 1902. He approved the general principles of the Bill, but took exception to the regulations as to training of pupil midwives—viz. (1) "That she must attend and personally deliver twenty cases of labour; (2) that she must nurse twenty

cases for ten days after confinement." It is impossible for hospitals such as the Rotunda, the Coombe, and Holles-street, in Dublin, to give twenty cases to a nurse for personal conduction, because to do so would necessitate doubling the size of the hospitals. It is equally impossible to enable a woman to nurse her patient for ten days after labour, because the patient leaves the hospital at the end of the eighth day, and would not remain longer even if the hospital authorities could keep her. He contrasted the excellent methods of training Irish midwives, as required by the Irish Chartered Hospitals, with the method of training required by the Central Midwives Board, to the great disadvantage of the latter. He also drew attention to the fact that a considerable number of English women have up to this availed themselves of the many advantages to be obtained in our midwifery hospitals, and that many Irish nurses leave Ireland every year to practise among their kith and kin in England. Now this must all stop, because the Irish maternities cannot honestly comply with the regulations as required by the Central Midwives Board. The position he took up was that nurses who have obtained their certificates from the three chartered hospitals should at least be entitled to be admitted to the examination of the Central Midwives Board without having to spend a further three months in England.

DR. TWEEDY proposed a vote of thanks to the President for his able Address. In reference to the Midwives Registration Act he said :—I fear that our profession cannot be held blameless for the present condition of affairs. When it became apparent to everyone that rightly or wrongly the English public intended to have the Bill as it at present stands, there was no unanimity of opinion among our professional brethren here. To the outsider the heads of some of our large maternity hospitals appeared apathetic, and our chartered Colleges seemed entirely concerned with an effort to prevent the extension of the Bill to Ireland. Dr. Smyly alone, so far as I know, held consistent views, and urged the importance of having Ireland included in the benefit of the Act. It was not until the Bill had almost become law that those in authority in the Rotunda aroused themselves to obtain certain privileges for the Chartered Hospitals of Dublin. These privileges, I understand, extend only to the year 1905, and, such as they are, we share them in common with every "handy woman" in England. After 1905, women who wish to practise midwifery in England will have to pass a State ex-

amination; before presenting themselves for this, certain conditions will have to be fulfilled which render it impossible for Irish nurses to enter for it. The Rotunda is the largest hospital of its kind in the three Kingdoms; 170 women have crossed the water to enter it as nurses within the past five years; that in itself is sufficient proof of the value attached to our certificates. These nurses have to spend six months in the hospital, furnish testimonials of exemplary character, see hundreds of conductions, attend personally at some, look after the women from the time they arrive in hospital till they leave, care the children, &c. They receive a thorough training in antiseptics, and, finally, do not receive their certificates until they have passed a difficult examination. Yet this miserable rule of having to attend a woman for ten days after confinement absolutely makes it impossible for our nurses to qualify. It is a fact of common knowledge that the lying-in women in the Rotunda spend only eight days in the institution; and, consequently, the "handy woman" in the English villages, who has muddled through her twenty conductions, and has attended for ten days in each case, will be adjudged more worthy to present herself for examination than our nurses. I trust that this question will not be let rest. If we agree on some common course of action we shall surely succeed in getting the Privy Council to alter the rules that at present exist; and I hope that before we leave this meeting some resolution will be adopted which will be the means of removing the injustice that so nearly threatens us.

The resolution was unanimously adopted.

DR. KIDD, in proposing "That in the opinion of the Obstetric Section of the Royal Academy of Medicine in Ireland, any woman holding the nursing certificate of the Irish Chartered Maternity Hospitals shall be deemed to have complied with the rules of the Central Midwives Board regulating the course of training of 'pupil midwives,' and shall be eligible to present herself for the examination of the Central Midwives Board," said that in this resolution there is nothing contentious. Professor Smith pointed out very clearly the difference which exists between the training of midwives here in Ireland and that which, under the terms of the Act, would entitle the ordinary midwife in England to present herself for examination by the Central Midwives Board. To tell you of the status of our Dublin Midwifery Hospitals and their mode of training nurses would be "bringing coals to Newcastle." Dr. Tweedy mentioned that eight days

was the recognised number of days spent by a patient in the maternity of the Rotunda Hospital. I believe that nine days is the number at the Coombe; but any person who has had experience knows the extreme difficulty there is in keeping that class of patient in hospital, even for so short a time. A hospital is not a prison, a patient can leave at any time, and, in order to save the hospital authorities under these circumstances, the patient, if she insists on going out contrary to the advice of the staff, has to sign a paper that she leaves at her own risk. The reason *why* they want to go so soon is not far to seek. These poor people have to leave their homes and children without anyone to take care of them, relying probably on some neighbour to look after them when she can spare time from her own family duties. It is quite impossible to detain the patients for the period of ten days required by the rules. With regard to the allocating of twenty conductions to each nurse, I think that instead of doubling the size of our hospitals we would have to double the number of births. Dr. Tweedy has pointed out that no less than 170 midwives who were trained in the Rotunda Hospital during the last five years went over to practise in England. I think that if this point were brought prominently forward, it is the one and sole proof needed to show the estimation in which the diploma of the Rotunda Hospital is held in England. With regard to the section of the Act which gives us two or three years' grace, it really reduces the nurses who have received the certificate of the Rotunda or the Coombe to the level of the "handy women" in England. I think that if this resolution is adopted, and if pressure is brought to bear on the Privy Council to alter the rules so as to allow the admission of our trained nurses to the examinations of the Central Midwives Board, we shall succeed in getting justice done to the Chartered Hospitals of Dublin.

DR. JELLET in seconding Dr. Kidd's resolution said that he would like to point out that the present difficulty of the Dublin hospitals was brought about not by the provisions of the Midwives Act, but by the regulations of the Central Midwives Board sanctioned by the Privy Council; and that it was, therefore, possible to overcome it, as these regulations could be changed. There was not the least occasion for the Dublin hospitals to lose heart. If the proper stand is made, the changes are sure to be effected. The present regulations practically prohibit the training of nurses in Ireland for English districts. In this country

we have been accustomed for a long time to the cry of "Ireland for the Irish," and perhaps the present difficulty is due to the extension of a cry to England, that, in other words, the regulations are an attempt, whether deliberate or not, on the part of the English maternity hospitals to prevent the training of English nurses, for English districts, in Ireland. Now there are two ways out of the present difficulty open to the Irish hospitals. They can claim either that their examinations should be recognised as equivalent to the examination of the Central Midwives Board or that, in the terms of the resolution, the certificates of the Irish hospitals shall be taken by the Central Midwives Board as evidence of sufficient training, though this would seem to be self-evident to anyone. Indeed, the opinion has been expressed that the knowledge of our Irish maternity nurses is often greater than that of the average medical student. It is interesting to note the attitude of the promoters of the different Bills towards the Irish hospitals in the past and at present. (The speaker then read some correspondence which passed between the College of Physicians and the promoters of the Midwives Bills of 1900 and 1902.) When the Bill of 1900 was before Parliament, Mr. Heywood Johnston expressed a willingness to accept an amendment recognising the examinations of the Irish hospitals as equivalent to the examination of the Central Midwives Board. When the Bill of 1902 came forward he refused to accept such an amendment, but at the same time disclaimed any hostility to the Irish hospitals, and stated that in his opinion the Bill would not injure them. Now that the Bill is law, the first act of a Board largely controlled by the promoters of the Bill is to draw up rules which effectually exclude Irish nurses. It is of importance to know how the Irish nurses stand at present, and what would be their position if they asked to be examined by the Central Midwives Board. On this account he had written to Dr. Sinclair, a member of the Board, and asked him what would be the position of an Irish nurse who applied to be admitted to the examination of the Board, and who said—"I have been a pupil midwife for six months at one of the Dublin Incorporated Hospitals. During that time I have attended a regular course of instruction; I have watched some 300 to 400 deliveries; I have personally assisted at some 20 to 30; I have personally conducted some three or four; I have watched some 600 to 800 women during their puerperium; and I have personally nursed some 20 to 30. I have passed the examination of the hospital."

Dr. Sinclair, in reply, had stated that the Board had said that it was bound by the Privy Council Rules, but that he considered that the Irish hospitals had a substantial grievance which called for removal. What were they going to do? The resolution of the Academy would be of little value unless backed unanimously by the hospitals, by the Royal Colleges, and by extraneous opinion, but if it were brought before these bodies and the Irish members, and then before the Privy Council, it could not fail. The Central Midwives Board were undoubtedly a powerful body, but when it went too far it could be pulled up by the Privy Council, as had been done before. Of the present regulations some were good and some were bad; and it was a curious fact that—as was commonly hinted—almost all the good regulations were recommended by a minority of the Board, were refused by the majority, and were finally forced on the majority by the Privy Council. In other words, the majority report was, to a very large extent, rejected by the Privy Council, and if the Privy Council had compelled the Central Board to change their regulations once, it could make them do so again. But to succeed there must be absolute unanimity between the Dublin hospitals. The worst enemies of these hospitals could not accuse them of over zeal in their own behalf in the past. The College of Physicians and the Board of the Rotunda Hospital had done something; the College of Physicians had worked hard, but had failed to accomplish what it wanted; the Rotunda had succeeded in getting an amendment to the Bill, which put the nurses of that institution on the same level as the “handy women” of England. In the future, if reform was to be obtained the Dublin hospitals, the Royal Colleges, and this Academy must unanimously insist on the admission of the nurses of the chartered hospitals to the examination of the Central Board.

The PRESIDENT then put the resolution to the meeting, and declared it unanimously carried.

DR. SMYLY: The resolution I have to propose is one of great importance to our country and profession, and therefore should arouse the most intense feelings of patriotism and professional *esprit de corps*. It is that this Midwives Act should be extended to Ireland. For many years I have felt it to be a very desirable Act both for England and Ireland, and at first I worked with some energy for its passing; but when I found that Ireland was excluded from the Act, and that we were excluded from all the benefits of it, it seemed to me that we should suffer a double

wrong—we not only get nothing ourselves, but we are deprived of our present privileges. I think this Act would be of benefit to us in three ways. First, to poor lying-in women in Ireland. It has been said to me often that we do not want the Midwives Act over here when we have a Poor-Law that provides midwifery for necessitous women. I give my opinion—it has been formed from some experience among the poor of Dublin and elsewhere, and not founded on statistics, so it may clash with and be different from the opinion of other people—but it is my opinion that in the poorer parts the lying-in women are not attended by trained nurses, but by ignorant women who have no training whatever, and are popularly known as “handy women.” These persons, however good their motives may be, are absolutely ignorant of the methods which are best for the safety of the mother and her offspring. I am sure we can all remember instances in which injuries have been done by these women. One case I remember—that of a woman who came to me at the Rotunda suffering from a disease which required surgical treatment. I suggested that she should come to the hospital for operation, and she said that she could not as she had some labour cases to attend to. I asked her was she a trained nurse, and she said no. Was she aware of the danger lying-in women incurred through her? She replied that she sponged herself several times a day, and kept herself quite clean. I asked her did she make p. v. exams.? She said she did, that her cases would think she was no good if she did not. It would be impossible for such a woman to practise under the Midwives Act. No woman will be allowed to practise midwifery again without a certificate—that is, in England. If the Bill extended to Ireland the effect would be that these poor women would be attended by trained nurses. However superficial such training might be, she would at least have learnt the use of antiseptics, the methods of cleanliness, the prevention of puerperal fever, &c., and she would know when to send for a doctor. Now, what an inestimable boon this would be to our poor people. In the reports brought before us annually, there is seldom one in which there are not reports of cases mismanaged by midwives. That would be prevented by the legislation in this Bill. The untrained nurse does not send for a doctor, simply because she does not know that her patient is in danger. If under the Midwives Act a nurse meet with a case of malpresentation, hæmorrhage, and so on, and she does not send for a doctor, she is liable to have

her name erased from the Midwives Roll. If guilty of drunkenness, or immorality, she would be liable to punishment. How does this Bill affect the medical profession? The midwives have to send for a doctor if anything is going wrong, and this entails a lot of work for doctors which they might otherwise not have got. And as midwives are compelled by Act under the County Councils to send for the doctor, I believe the people who compel the sending for the doctor will have to pay him; but this is not quite clear. However from many a point of view, and especially from the fact that it would be a benefit to humanity, the extension of the Act to Ireland should be looked on with favour by the medical profession. The third reason why the extension would be beneficial to us is that of the great training schools here. If we fail in our appeal to the Central Board and to the privy Council, we shall be in an unfortunate condition, and the Rotunda will receive a very great blow. If we had united to get the Bill extended to this country, we should have had our representatives on the Central Board, and their rules would not have been passed in their present form, for I cannot help feeling that these regulations were passed more through ignorance than through any feeling of malice to this country or to the Rotunda Hospital. As this resolution appeals generally to the profession in Ireland, I propose that a copy of it, if passed, be sent to the authorities of the Irish Medical Association.

DR. HORNE said we had to go back some twelve or fourteen years since this Bill was proposed, and ask who were its promoters. Not the medical profession, but a lay society and Mr. Heywood Johnston. The Obstetric Section of the Royal Academy of Medicine in Ireland had the Bill under discussion. When it came before us it was said it did not affect us at all; it was a Bill for England and Wales. We thought our poor people in this country well nursed indeed, for we had the Coombe and the Rotunda Hospitals, which were sending out nurses all over the country. A second attempt was made to carry the Bill, but it was still resisted by the profession, as against their rights. A third time, it becomes law. It is because it is law that I feel justified in saying that it should be extended to Ireland. However, there may be some difficulties about its extension to Ireland. Dr. Smyly has mentioned one very important point. How will medical men receive it? How will the County Councils, if they find they have to pay the costs? And I do not think that a trained nurse will go, say, to the Arran Isles for a salary of £15.

a year. However, the meeting very properly decided that the resolution ought to go before the Irish Medical Association in order that the profession may give their opinion on it. Probably, however, we are proceeding too fast. The Central Midwives Board may be looking after their own interests. I wrote the other day to the Secretary of that Board, asking for explanations, first as to the nurses' certificates in training, and those to come afterwards. I got a reply stating that my letter would be laid before the Board in due course. There is no necessity for action until they say they cannot receive our certificates. If they do not, I think this Act ought to be extended to Ireland, but with very decided amendments. I should be very sorry to see nurses trained under a certified midwife because she has seen twenty cases and attended for ten days afterwards. I think that in centres like Dublin and Belfast the right should be reserved for nurses to train just as at the present time, for it is only in big clinical centres that attendance should be recognised and certificates given.

The resolution was put to the meeting, and unanimously adopted.

DR. STEVENS proposed that the resolution of Dr. Kidd, which was seconded by Dr. Jellett, *re* the Chartered Hospitals, should be sent to the Central Midwives Board, and to the Privy Council On account of some remarks of Drs. Tweedy and Jellett, he would like to state that his Board had been willing to co-operate with the Rotunda Hospital, and had sent a communication to the Board of that hospital, which had not received any reply. He added that his Board would be only too happy to act with the other hospitals, for it was only by united action they could hope to prosecute their claim successfully. He was there on behalf of his Board to join in any resolution they might adopt, and he was heartily in agreement with the opinions of the meeting.

DR. BARRY seconded the resolution, and thought it was one that should be accepted without hesitation, for it was no more than justice that they should have good nurses not only here but across the water. The united action of the hospitals would be bound to get them what they wanted, not as a favour, but as a right.

The resolution was adopted, and
The Section adjourned.

CORK MEDICAL AND SURGICAL SOCIETY.

President—J. COTTER, M.D., F.R.C.S.I.

Secretary—RICHARD P. CROSBIE, M.A., M.B., R.U.I.

Wednesday, November 25, 1903.

THE PRESIDENT in the Chair.

Congenital Malformations.

THE PRESIDENT showed a female child, aged four, with congenital absence of the lower eyelid on the right side, an unusually extensive hare-lip on the same side, with a fissure in the gum just under it, and a double auricle surrounding the left auditory meatus. The palate was highly arched, but not cleft. The child was also suffering from chorea, but its intelligence was up to the normal standard.

Ovarian Dermoid Cyst.

DR. H. CORBY showed a dermoid cyst of the ovary which he had removed from a girl, aged eleven. The patient noticed a lump in the abdomen, which gave rise to no symptoms, and which was very movable. On opening the abdomen, it was seen to be connected with one of the ovaries, and on removal was found to be composed of an ordinary glandular cyst, and a dermoid one, containing hair, bone, &c. The patient made a good recovery.

Chronic Jaundice from Gallstones.

DR. T. GELSTON ATKINS read notes of a case of removal of gall-stones for jaundice persisting for seven years. The patient was a woman, aged thirty-five. Both liver and gall-bladder were enlarged. Twenty-six stones were removed from the gall-bladder, and a large stone could still be found in the common bile duct. It was so soft that on gentle pressure between the fingers it crumbled away, and the duct was then flushed. The patient recovered and the jaundice disappeared.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Univ. Dubl.;

F.R.C.P.I.; F.R. Met. Soc.;

Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, January 2, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending January 2, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 27.6 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, January 2, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Aver- age Rate for 4 weeks	Towns, &c.	Week ending				Aver- age Rate for 4 weeks
	Dec. 12	Dec. 19	Dec. 26	Jan. 2			Dec. 12	Dec. 19	Dec. 26	Jan. 2	
22 Town Districts	21.8	26.0	19.1	27.6	23.6	Lisburn -	4.5	27.3	18.2	13.6	15.9
Armagh -	6.9	27.5	6.9	34.4	18.9	Londonderry	10.1	26.5	12.6	20.2	17.4
Ballymena -	19.2	19.2	4.8	19.2	15.6	Lurgan -	13.3	31.0	8.9	26.6	20.0
Belfast -	21.1	25.9	23.0	26.5	24.1	Newry -	25.2	21.0	12.6	21.0	20.0
Clonmel -	25.6	25.6	25.6	25.6	25.6	Newtown- ards	40.1	34.3	28.6	22.9	31.5
Cork -	19.9	17.8	15.1	20.5	18.3	Portadown -	25.8	31.0	20.7	20.7	24.6
Drogheda -	28.6	28.6	12.3	12.3	20.5	Queenstown	6.6	46.1	13.2	-	16.5
Dublin - (Reg. Area)	24.6	25.6	19.9	31.8	25.5	Sligo -	9.6	19.2	-	24.0	13.2
Dundalk -	12.0	23.9	27.9	12.0	19.0	Tralee -	15.9	15.9	-	10.6	10.6
Galway -	31.1	15.5	35.0	35.0	29.2	Waterford -	19.5	31.2	18.6	27.3	22.9
Kilkenny -	29.5	63.9	19.7	29.5	35.7	Wexford -	37.4	23.3	9.3	23.3	23.3
Limerick -	23.2	36.9	8.2	50.6	29.7						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, January 2, 1904, were equal to an annual rate of 2.2 per 1,000—the rates varying from 0.0 in fifteen of the districts to 4.8 in Ballymena and Sligo Urban Districts, respectively. Among the 182 deaths from all causes in Belfast are 18 from whooping-cough, one from diphtheria, 2 from enteric fever, and 2 from diarrhoeal diseases. The 37 deaths from all causes in Limerick include 3 from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area now consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, January 2, 1904, amounted to 228—105 boys and 123 girls; and the deaths to 240—116 males and 124 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 33.0 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the Area, the rate was 31.8 per 1,000. During the fifty-two weeks ending with Saturday, January 2, 1904, the death-rate averaged 23.9, and was 2.1 under the mean rate for the corresponding portions of the ten years 1893–1902.

There was one death from measles. Scarlet fever and influenza each caused 2 deaths. Twelve deaths from whooping-cough and one death each from enteric fever and simple continued fever were registered. In the preceding 4 weeks the deaths from whooping-cough had been 5, 7, 4, and 3, respectively, and the deaths from enteric fever had been 2, 1, 1, and 2, respectively. Not one death from small-pox, typhus, or diphtheria was registered.

Included in the 36 deaths due to tuberculous disease are 7 from tubercular phthisis, 18 from *phthisis*, 3 from tubercular

meningitis, one from *tabes mesenterica*, and 7 from other forms of the disease.

Three deaths were assigned to carcinoma and 5 to *cancer (malignant disease)*.

Of 14 deaths from diseases of the nervous system, 6 deaths were caused by *convulsions*; 5 of the latter were of infants under one year old.

There were 47 deaths from diseases of the heart and blood-vessels.

Of 59 deaths attributed to diseases of the respiratory system, 34 were caused by bronchitis, 10 by broncho-pneumonia, and 10 by *pneumonia*. The total (59) is equal to an annual rate of 8.1 per 1,000 of the population of the Dublin Registration Area, the annual average rate for the corresponding week of the preceding 10 years being 7.0 per 1,000.

Of 6 deaths attributed to accidental violence, 4 were due to burns, scalds, or explosions, and one death was caused by drowning.

In 9 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 children under one year old and the deaths of 3 persons aged 60 years or upwards.

Sixty-nine of the persons whose deaths were registered during the week ended Saturday, January 2, 1904, were under 5 years of age (37 being infants under one year, of whom 11 were under one month old); and 61 were aged 60 years and upwards, including 27 persons aged 70 and upwards, of whom 14 were octogenarians, and 2 (a man and a woman) were stated to have been aged 91 and 90 years respectively.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly

Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended January 2, 1904, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or German Measles.	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	Dec. 12	-	-	-	8	-	-	3	-	2	11	7	-	-	-	31
	Dec. 19	-	1	-	13	-	-	5	-	3	19	16	-	-	-	50
	Dec. 26	-	14	1	7	-	-	-	-	1	16	14	-	-	-	52
	Jan. 2	-	12	-	13	-	-	8	-	1	17	11	-	-	-	61
Rathmines and Rathgar Urban District	Dec. 12	-	-	-	1	-	-	1	-	-	2	1	-	1	-	6
	Dec. 19	-	-	-	1	-	-	1	-	-	2	-	-	-	-	4
	Dec. 26	-	-	-	1	-	-	-	-	3	3	-	-	-	1	5
	Jan. 2	-	-	-	1	-	-	-	-	-	1	1	-	-	-	3
Pembroke Urban District	Dec. 12	-	-	-	-	-	-	1	-	-	-	3	-	6	-	10
	Dec. 19	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2
	Dec. 26	-	-	-	-	-	-	-	-	-	1	-	-	6	-	6
	Jan. 2	-	-	-	-	-	-	3	-	-	1	-	-	1	3	7
Blackrock Urban District	Dec. 12	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2
	Dec. 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	Dec. 26	-	-	-	3	-	-	-	-	-	-	1	-	-	-	4
	Jan. 2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Kingstown Urban District	Dec. 12	-	-	-	-	-	-	3	-	-	-	-	-	-	-	3
	Dec. 19	-	-	-	-	-	-	-	-	-	1	1	-	-	-	2
	Dec. 26	-	-	-	-	-	-	-	-	-	1	-	-	-	1	1
	Jan. 2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
City of Belfast	Dec. 12	2	-	-	20	1	-	6	1	6	8	17	2	-	-	53
	Dec. 19	5	-	-	24	1	-	10	2	5	10	13	-	-	-	70
	Dec. 26	1	-	-	22	-	-	2	-	5	4	11	2	-	-	47
	Jan. 2	2	-	-	15	-	-	1	1	8	4	13	2	-	-	46

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, January 2, 1904, eight cases of measles were admitted to hospital, there was one death, and 20 patients remained under treatment at its close.

Nine cases of scarlet fever were admitted to hospital, 10 cases were discharged, there was one death, and 101 cases remained under treatment at the close of the week. This number is.

exclusive of 12 patients still under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Two cases of typhus fever were admitted to hospital, and 3 remained under treatment at the close of the week.

Twelve cases of diphtheria were admitted to hospital, 3 were discharged, and 22 cases remained under treatment at the close of the week.

Four cases of enteric fever were admitted to hospital, 15 cases were discharged, there were 3 deaths, and 63 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 9 cases of pneumonia were admitted to hospital, 4 patients were discharged, there was one death, and 16 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, January 2, 1904, in 76 large English towns, including London (in which the rate was 21.1), was equal to an average annual death-rate of 20.6 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 21.7 per 1,000, the rate for Glasgow being 24.6, and for Edinburgh 20.0.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of December, 1903.

Mean Height of Barometer, - - -	29.660 inches.
Maximal Height of Barometer (25th, at 9 a.m.),	30.171 „
Minimal Height of Barometer (10th, at 3 a.m.),	28.810 „
Mean Dry-bulb Temperature, - - -	40.3°.
Mean Wet-bulb Temperature, - - -	38.7°.
Mean Dew-point Temperature - - -	36.5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.220 inch.
Mean Humidity, - - -	86.9 per cent.
Highest Temperature in Shade (on 21st)	55.8°.
Lowest Temperature in Shade (on 2nd),	27.1°.
Lowest Temperature on Grass (Radiation) (2nd),	21.9°.
Mean Amount of Cloud, - - -	64.4 per cent.
Rainfall (on 16 days), - - -	1.586 inches.
Greatest Daily Rainfall (on 12th),	.291 inch.
General Directions of Wind, - - -	S.E., S.W., W.

Remarks.

The salient features of the closing month of the year 1903 were—cold spells of considerable intensity at the beginning and end, separated from each other by a wave of warmth, which culminated in day temperatures of 55.8° and 55.7° on the 21st and 22nd respectively; a rainfall which was frequent (16 “rainy days”) but deficient in amount (1.586 inches against an average of 2.390 inches); a remarkable and persistent depression of the barometer between the 4th and 13th, followed by a very gradual increase of atmospheric pressure from the latter day to the 20th, and a high and relatively steady barometer thence to the 30th inclusive; and finally, an unusual prevalence of S.E. winds. In the City of Dublin the estimated duration of bright sunshine was 67.25 hours, compared with 53.25 hours in December, 1902—the daily average being 2.17 hours against 1.72 hours in 1902.

In Dublin the arithmetical mean temperature (40.9°) was below the average (41.7°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 40.3° . In the thirty-eight years ending with 1902, December was coldest in 1878 (M. T. = 32.8°), and in 1874 (M. T. = 36.8°); warmest in 1898 (M. T. = 47.6°), and in 1900 (M. T. = 47.1°).

The mean height of the barometer was 29.660 inches, or 0.215 inch below the corrected average value for December—namely, 29.875 inches. The mercury rose to 30.171 inches at 9 a.m. of the 25th, and fell to 28.810 inches at 3 a.m. of the 10th. The observed range of atmospheric pressure was, therefore, 1.361 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 40.3° , or 3.7° below the value for November, 1903. Using the formula, *Mean Temp.* = *Min.* + (*Max.* - *Min.* $\times .52$), the value was 41.0° , or 0.9° below the average mean temperature for December, calculated in the same way in the thirty years, 1871-1900, inclusive (41.9°). The arithmetical mean of the maximal and minimal readings was 40.9° , compared with a thirty years' average of 41.7° . On the 21st the thermometer in the screen rose to 55.8° —wind, S., on the 2nd the temperature fell to 27.1° —wind, W.N.W. The minimum on the grass was 21.9° , also on the 2nd. There was frost in the screen on 8 days, and 15 nights of frost on the grass were recorded.

The rainfall was 1.586 inches, distributed over 16 days. The average rainfall for December in the thirty-five years, 1866-1900, was 2.390 inches, and the average number of rainy days was 18. The rainfall, therefore, and also the rainy days were below the average. In 1876 the rainfall in December was very large—7.566 inches on 22 days. In 1868 (which was otherwise a fine and dry year), 4.749 inches fell on as many as 27 days. On the other hand, in 1867, only .771 inch was measured on 13 days; in 1885, only .742 inch on 10 days; in 1892, only .795 inch on 10 days; and in 1871, only .797 inch on 15 days. In 1902, 1.563 inches of rain fell on 13 days.

High winds were noted on 9 days, and attained the force of a gale on three occasions—the 3rd, 7th and 8th. The atmosphere was more or less foggy in Dublin on the 12th, 13th, 17th, 19th, 20th, 23rd, 24th, 25th and 26th. Hail fell on the 8th, 26th and 28th.

The rainfall in Dublin during 1903 amounted to 31.601 inches on 228 days, compared with 29.375 inches on 203 days in 1902, 26.075 inches on 179 days in 1901, 34.338 inches on 216 days in 1900, 27.737 inches on 186 days in 1899, 27.048 inches on 194 days in 1898, 29.344 inches on 211 days in 1897, 26.901 inches on 194 days in 1896, 31.242 inches on 194 days in 1895, 29.261 inches on 209 days in 1894, only 20.493 inches on 174 days in 1893, only 16.601 inches on 160 days in 1887, and a thirty-five years' average of 27.770 inches on 198 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.830 inches on 18 days, compared with 2.920 inches on only 11 days in December, 1902. Of the total amount .460 inch fell on the 14th. From January 1st to December 31st, 1903, rain fell at Knockdolian on 211 days, to the total amount of 35.900 inches. The corresponding figures for 1895 were 35.135 inches on 174 days; 1896, 36.102 inches on 169 days; 1897, 42.885 inches on 210 days; 1898, 30.546 inches on 171 days; 1899, 36.690 inches on 182 days; 1900, 42.716 inches on 191 days; 1901, 34.750 inches on 166 days; and 1902, 40.021 inches on 168 days.

The rainfall at Cloneevin, Killiney, was 2.39 inches on 16 days. The maximal fall in 24 hours was .44 inch on the 14th. The average December rainfall of the 18 years (1885-1902) was 2.423 inches on 17.5 days.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 20 days to the amount of 2.21 inches, .51 inch being measured on the 14th. Temperature ranged from 54° on the 21st to 27.0° on the 30th. The mean shade temperature was 40.8° Fahrenheit. Sleet fell on the 26th.

Dr. B. H. Steede reports that at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell on 17 days in December to the amount of 3.733 inches. The heaviest falls in 24 hours were .670 inch on the 14th and .570 inch on the 6th. The highest temperature was 51.3° on the 22nd, the lowest was 27.8° on the 30th. At this Normal Climatological Station the total rainfall during the year 1903 was 41.820 inches on 231 days.

At Wellesley-terrace, Cork, the December rainfall was 4.67 inches on 22 days, the measurement being .22 inch in excess of the average. The greatest daily rainfall was .85 inch on the 14th. The year's rainfall at this station was 52.77 inches on 240 days, the total being 14.57 inches over the average, and the rainy days being 43 in excess. The rainfall was the largest in Cork since 1872, when the measurement was 61.5 inches.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall was 6.335 inches on 15 days, compared with 9.413 inches on 26 days in December, 1899, 7.810 inches on 27 days in 1900, 7.667 inches on 20 days in 1901, and 4.760 inches on 20 days in 1902. On the 8th 1.300 inches fell, and on the 21st 1.400 inches. Snow was observed on the 1st.

At the Ordnance Survey Office, Phoenix Park, Dublin, 1.816 inches fell on 18 days, .355 inch being recorded on the 7th.

Mr. John Read, of Claremount, Carrickmines, Co. Dublin, reports that the rainfall at that place in December was 2.35 inches, .87 inch being recorded on the 16th. The total rainfall for 1903 at Claremount was 33.23 inches.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health for Kingstown, reports that the mean temperature at that health resort was 41.3°, being 0.2° below the average for this month during the previous 5 years. At Portland the mean was 41.9° and it was 40.0° at Dungeness. The mean of these two numbers, 41.0° may be taken as the average mean temperature at the principal health resorts on the south coast of England. The extremes were—highest, 54° on the 21st; lowest, 30° on the 1st. At Portland they were—highest, 52° on the 9th; lowest, 28° on the 30th and 31st; and at Dungeness—

highest, 51° on the 9th ; lowest, 25° on the 31st. The mean daily range was 7.2° at Kingstown, 6.2° at Portland, and 6.8° at Dungeness. The average temperature of the sea at Sandycove bathing-place was 43.7°. The rainfall at Kingstown was 2.08 inches on 16 days, at Portland it was 2.27 inches on 18 days, and at Dungeness 2.10 inches on 15 days. The mean relative humidity as observed at 9 a.m. daily, was 84 per cent. The duration of bright sunshine was 43.1 hours, whereas it was 46.7 hours at the Ordnance Survey Office, Phoenix Park., 50.8 hours at Valentia, 32.3 hours at Parsonstown, 21.5 hours at Southport, and 23.5 hours at Eastbourne.

The total annual rainfall for 1903 at Kingstown amounted to 29.28 inches on 208 days, being 0.48 inch above the average for the 13 previous years (1873-83 and 1901-02). The greatest monthly rainfall was that of September, amounting to 3.51 inches. On two days only the rainfall amounted to one inch—namely, on March 12th, when 1.15 inches fell, and on September 10th, when the measurement was 1.02 inches. The annual average relative humidity, as observed daily at 9 a.m., was 77.9 per cent.

RAINFALL IN 1903.

At 40 Fitzwilliam-square, West, Dublin.

Rain Gauge :—Diameter of Funnel, 8 in. Height of top—Above ground, 1 ft. 4 in. ; above sea level, 50 ft.

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which .01 or more fell
	Inches	Depth	Date	
January, -	3.269	.577	8th	20
February, -	2.234	.644	26th	15
March, -	3.623	.808	12th	26
April, -	1.050	.340	25th	17
May, -	2.384	.479	29th	17
June, -	2.494	.838	22nd	13
July, -	4.018	.517	14th	23
August, -	2.800	.470	13th	26
September, -	3.397	.966	10th	17
October, -	2.613	.315	6th	22
November, -	2.133	.615	28th	16
December, -	1.586	.291	18th	16
Year, -	31.601	—	—	228

* Maxim m

The rainfall was 31.601 inches, or 3.831 inches in excess of the average annual measurement of the thirty-five years, 1866-1900, inclusive—viz., 27.770 inches.

It is to be remembered that the rainfall in 1887 was very exceptionally small—16.601 inches—the only approach to this measurement in Dublin being in 1870, when only 20.859 inches fell; in 1884, when the measurement was 20.467 inches; and in 1893, with its rainfall of 20.493 inches. In nine of the thirty-five years in question the rainfall was less than 26 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32.966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. In 1900 the rainfall was 34.338 inches, or 6.568 inches in excess of the average for the thirty-five years, 1866-1900. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1900—namely, in 1872, when 35.566 inches fell on 238 days, and in 1880, when 34.512 inches were measured on, however, only 188 days.

In 1903 there were 228 rainy days, or days upon which not less than .005 inch of rain (five-thousandths of an inch) was measured. This was 30 above the average number of rainy days, which was 198 in the thirty-five years, 1866-1900, inclusive. In 1868 and 1887—the warm, dry years of recent times—the rainy days were only 160, and in 1870 they were only 145.

In 1903 the rainfall in 24 hours, from 9 a.m. to 9 a.m., on no occasion exceeded one inch—the maximum being .966 inch on September 10. In 1892 the daily rainfall twice exceeded 1 inch—viz., May 28th (2.056 inches) and August 16th (1.310 inches). On no occasion in 1893 did one inch of rain fall on a given day in Dublin. In 1894 falls of upwards of an inch of rain in 24 hours were recorded on 4 occasions—viz., May 15th (1.330 inches); July 24th (1.560 inches); August 25th (1.369 inches); and October 23rd (1.042 inches). In 1895, 1.802 inches fell on January 12th; 1.014 inches on July 24th; and 1.256 inches on July 25th. In 1896, 1.563 inches fell on July 8th; 2.020 inches on July 24th; and 1.388 inches on December 8th. In 1897, 1.166 inches fell on September 1st. In 1898, on November 23rd, 1.732 inches were measured. In 1899, the rainfall exceeded one inch on 4 occasions—namely, July 11th (1.402 inches); August 5th (2.227 inches); September 30th (1.042 inches), and December 28th (1.129 inches). In 1900, as in 1899,

the rainfall exceeded one inch on 4 occasions—namely, July 27th (1.783 inches); August 2nd (2.135 inches); November 6th (1.103 inches); and November 27th (1.126 inches). In 1901, the rainfall only once exceeded one inch, but on that occasion (November 11th) the measurement was 2.037 inches. In 1902, 1.342 inches fell on July 25th, and 2.075 inches on September 2. The excessive rainfall on September 2, 1902, is noteworthy—it amounted to 2.075 inches in Dublin (Fitzwilliam-square). It was the eighth occasion only since 1865—that is, in 38 years—upon which 2 inches have been measured in Dublin at 9 a.m. as the product of the preceding 24 hours' precipitation. The previous excessive falls were—August 13th, 1874 (2.482 inches); October 27th, 1880 (2.736 inches); May 28th, 1892 (2.056 inches); July 24th, 1896 (2.020 inches); August 5th, 1899 (2.227 inches); August 2nd, 1900 (2.135 inches); and November 11th, 1901 (2.037 inches).

Included in the 228 rainy days in 1903 are 11 on which snow or sleet fell, and 19 on which there was hail. In January hail was observed on 4 days, in February on 1 day, in March on 4 days, in April on 3 days, in May on 1 day, in June on 2 days, in July on 1 day, in September and October on 1 day, and in December on 3 days. Snow or sleet fell on 3 days in January, 2 days in February, 4 days in March, and 1 day in both April and November. Thunder was heard on 3 days in July. Thunderstorms occurred once in February, July and September; three times in June; and twice in August. Lightning was seen three times in February; once in April, May, June and July; twice in August.

The rainfall in the first six months was 15.054 inches on 108 days. The rainfall exceeded 3 inches in January (3.269), March (3.623), July (4.018), and September (3.397).

The rainfall was distributed as follows:—9.126 inches fell on 61 days in the first quarter, 5.928 inches on 47 days in the second, 10.215 inches on 66 days in the third, 6.332 inches on 54 days in the fourth, and last, quarter.

More or less fog prevailed on 41 occasions—8 in January, 1 in February, 1 in March, 4 in April, 1 in May and June, 3 in July, 2 in September, 5 in October, 6 in November, and 9 in December. High winds were noted on 147 days—21 in January, 16 in February, 22 in March, 7 in April, 5 in May, 6 in June, 8 in July, 18 in August, 13 in September, 14 in October, 8 in November,

and 9 in December. The high winds amounted to gales (force 7 or upwards, according to the Beaufort scale) on 54 occasions—9 in January, 10 in February, 11 in March, 1 in April, 2 in July, 5 in August, 6 in September, 5 in October, 2 in November, and 3 in December.

Solar halos were seen on 7 occasions, a lunar halo on only 1, Mr. Robert O'Brien Furlong, M.A., C.B., writes :—

The rainfall at Cloneevin, Killiney, for the year 1903, amounted to 32.44 inches on 219 days. This is only .18 inch more than in 1902, when 32.26 inches fell; and the amount has been exceeded in 1900 (35.35 inches), 1895 (32.85 inches), and 1894 (32.64 inches).

The largest amount measured in any month was 3.82 inches on 26 days in October—the smallest was 1.37 inches on 12 days in April.

The greatest number of days on which rain fell in any month was 29 in March—the lowest, 12 in April, and also in June.

The number of days on which rain fell—219—is higher than in any year since these observations began—1885. The highest number heretofore recorded was 205 in 1900.

The heaviest fall in 24 hours was on August 18, when 1.15 inches fell; this was the only day on which one inch or upwards was measured in the year 1903. The average yearly fall during 18 years, 1885–1902, was 28.107 inches on 182.9 days. The rainfall of 1903 was 4.33 inches, and the number of days on which rain fell was 37 in excess of the average

Snow, sleet, or hail was noticed on 12 days.

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam-square, West) during the Year 1903.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min.	Rainfall	Rainy Days	Mean Height of Barometer	Highest Pressure.	Date	Lowest Pressure	Date	Prevailing Winds
January	55.9	26th	25.7	13th	46.3	37.9	3.269	20	29.815	30.544	14th	28.830	7th	S.W.
February	59.0	8th	31.7	28th	52.4	42.5	2.234	15	29.951	30.527	13th	28.550	27th	S.W., W.
March	60.7	22nd	34.1	2nd	51.5	39.6	3.623	26	29.642	30.332	8th	28.600	2nd	S.W., W., S.
April	61.1	6th	29.9	17th	52.3	39.4	1.050	17	29.913	30.504	17th	29.188	29th	N.W., W., N.E.
May	68.0	25th and 28th	40.9	17th	59.2	46.5	2.384	17	29.871	30.447	23rd	29.246	4th	E.N.E., N.E., E.
June	72.7	28th	41.0	14th	62.6	50.2	2.494	13	30.082	30.505	4th	29.728	18th	N.E., N.
July	79.0	9th	44.1	7th	66.7	53.5	4.018	23	29.910	30.345	9th	29.477	16th	W., N.W., S.W.
August	70.9	30th	46.1	21st	64.9	51.8	2.800	26	29.774	30.180	25th	28.837	14th	W., S.W., S.
September	67.2	1st	37.8	15th	62.0	49.9	3.397	17	29.946	30.561	14th	28.881	10th	S., S.S.E., S.E.
October	64.9	6th	33.6	28th	56.8	45.9	2.813	22	29.505	30.121	17th	28.804	12th	W., N.W., S.W.
November	60.0	12th	29.2	30th	50.7	40.0	2.133	15	30.047	30.626	5th	29.144	28th	W., S.W., N.W.
December	55.8	21st	27.1	2nd	44.9	36.8	1.586	16	29.660	30.171	25th	28.810	10th	S.E., S.W., W.
Extremes, Totals, and Means	79.0	July 9th	25.7	Jan. 13th	55.9	44.5	31.401	Days 228	29.926	30.626	Nov. 5th	28.550	Feb 27th	S.W., W.

JOHN WILLIAM MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;
F. R. Met. Soc.

January 1, 1904.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Fussell's Pure Rich Cream.

THIS cream, the trade mark of which is a golden butterfly, is prepared in the highlands of Norway. It is sterilised *in vacuo* by a new patent process, which does not impair its flavour or involve the use of any chemicals. It can therefore be employed for every purpose, including whipping. Of the consistence of rich Devonshire cream, it is warranted to be perfectly pure and to keep good for a long time even in warm climates. The tins which contain the "Golden Butterfly Cream" should be kept in a cool place, and if possible should be placed upon ice before opening. The cream may be obtained from Messrs. Fussell & Co., 4 Monument-street, London, E.C. On January 13, 1904, we opened a tin which had been closed on October 19, 1903, and found the cream in excellent order, fragrant, fresh and rich. The name of Messrs. Fussell's agent in Ireland is Mr. John Ekin, 60 Donegall-street, Belfast.

"Liquor Carbonis Detergens" (Wright).

ALTHOUGH this well-known alcoholic solution of coal tar, now forty years in use, can scarcely claim to be a "New Preparation," we have much pleasure in drawing attention to its many excellences. Many years' experience leads us to state that it is an efficient remedy in irritable conditions of the skin and in certain forms of eczema. As a lotion, it may be prescribed, together with solution of lead subacetate, of the strength of two fluid drachms to eight fluid ounces of water. In psoriasis, a much stronger solution is necessary—up to one and a half fluid ounces in an eight-ounce lotion. Troublesome intertrigo is benefited by washing with a mixture of one drachm to a pint of warm water. And even in the treatment of alopecia areata the preparation finds its place, especially when combined with ammoniated mercury. In scabies, Dr. Radcliffe Crocker states that painting with the solution slightly diluted is generally effectual.

SKIN LESIONS AFTER ENTERIC FEVER.

W. P. NORTHRUP, M.D., reports (*Medical News*, New York, October 31st, 1903) a case of *lineæ albicantes* occurring in convalescence from enteric fever. Such cases are rare, generally occurring across the knee-joints. Dr. Northrup suggests that they result from the skin not being able to keep up with the rapid growth of the long bones. Cases recorded in Jules Comby's book on Children's Diseases (Paris) are abstracted in this article.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. VI.—*A Note on the Action of Radium on some Organisms.* By HENRY H. DIXON, Sc.D., Assistant to the Professor of Botany, University of Dublin; and JOSEPH T. WIGHAM, M.D., Assistant to the Lecturer in Pathology, Trinity College, Dublin.

As the discovery of radium and its wonderful physical properties has lately aroused so much interest, the investigation of the action of its radiations on the growth of plants seemed likely to produce some interesting results. Accordingly, growing seeds were exposed to the action of a tube containing 5 mg. of radium bromide. Whether the seeds were exposed before or after germination, the effect produced was very small, slight but distinct reduction in the rate of growth of those within the distance of about 1 cm. being all that was observed. In one case a seed germinated immediately under the tube, and the plant grew up in contact with it. This result is of some interest in a negative way as showing the small effect produced on growing vegetable cells of the higher plants.

At the same time experiments were tried with more lowly organisms, as, for instance, with *Volvox globator*, a motile alga, very sensitive to light and air supply. Careful provision having been made to exclude as much as possible

all extraneous factors, the effect of introducing the radium tube into a test-tube containing these plants was tried. After a day's treatment no effect could be distinguished, as the organisms were distributed uniformly through the water in the test-tube, and were neither attracted to nor repelled from the radium tube.

The action, however, of the radiations on still simpler structures proved more marked, as shown by many experiments with bacteria. In these the organisms were either mixed with melted agar and poured into a dish, or else spread over the surface of agar which had been previously allowed to set. The tube containing the radium bromide was then supported over the surface of the culture and as close to it as possible, and the radiations were allowed to act for various times and under various conditions of temperature. The results were at once seen to be well marked. In many cases the organisms which were within a distance of 1 to 3 cm. failed to grow or were delayed behind the surrounding bacteria. In one of the latest of these experiments agar containing an emulsion of *Bacillus pyocyaneus* was spread in a layer in a Petri dish, exposed for three days in the cold to the radiations, and then incubated. The tube containing the radium bromide (in this case a dilute sample containing 5 mg. of the pure bromide in $\frac{1}{2}$ grm. of barium bromide) was supported over the centre of the culture and 2 to 3 mm. above it. A sterile patch, roughly $1\frac{1}{2}$ cm. in diameter, appeared after incubation immediately below the tube. It had an irregular margin, the deeper smaller colonies extending further inwards than those on the surface. This patch remained free from colonies, although incubated for several days longer.

In another experiment, a plate culture of *B. prodigiosus*, made by smearing the surface of agar spread on a flat plate, was exposed for 2 days with the radium tube (5 mg. of pure radium bromide) supported 4 mm. over the centre. The culture was then incubated at 20°C. as a suitable temperature for this bacillus, and developed in the usual way, except that in the centre, immediately under the position which had been occupied by the radium, a

sterile patch appeared about 1 cm. in diameter. The colour of the culture was the usual red, strongest round its edges and 2 or 3 mm. from the patch, and fading gradually towards the centre until the colonies ceased. This probably indicates that the colour production was injuriously affected by the radiations, even where they were too feeble to arrest the growth of the bacillus. A shadow thrown by a platinum bar 3 mm. thick, which was supported just over the surface of the plate, was sharply marked out in another case. This shadow, in which the colonies grew more vigorously than in any other position in the plate, could be traced after two days' incubation extending for a distance of 5 cm. across the plate through the apparently unaffected culture; later, however, the growth became more evenly distributed, and the shadow could be seen only where it crossed, or was in the immediate neighbourhood of, the sterile patch.

These experiments, which were successfully repeated with other organisms, such as *B. anthracis* and *typhosus*, render it most probable that it is the β radiations which produce this effect on bacteria. Of the other radiations the α rays are stopped by the glass of the tube, while the γ rays penetrate to a much greater distance than the maximum of 2 to 3 cm. which we observed, and would readily pierce through thin layers of glass and agar, which seem to completely stop those that are effective. The heat, again, given off by the radium is for these experiments quite negligible, while the light, although fairly strong from some specimens, appears to have little effect, since in one experiment a screen of very thin platinum foil had no appreciable effect in diminishing the inhibition of growth.

In our experiments three degrees of inhibition were observed in the region immediately under the tube containing the radium:—(1) In some cases in which the growth of the bacteria was rapid, having been early placed under favourable conditions, even while the radium was present its inhibitory action was not enough to hinder development, but only to slightly retard growth; (2) in others growth took place as soon as the radium was removed; and (3) in the greatest number of cases no growth occurred even after

prolonged incubation free from the action of the radiations. It became necessary, accordingly, to ascertain whether in this last series of experiments the bacteria were destroyed. With this object sub-cultures were made from the patch into broth tubes, in all but one of which the organism used grew readily, proving that in the patch there were living bacteria, which for some reason were unable to develop into colonies without being removed to a new culture medium. On the other hand, if the patch was inoculated with bacteria from outside, they failed to grow.

From this it naturally follows that some change had taken place in the medium in which the bacteria had been distributed, and it was possible that this change was directly due to the action of the radium. To find whether this was so, inoculated plates were exposed to the radiations for three days, and then inoculated by being brushed over with an emulsion of the bacteria. In every case the bacteria grew quite evenly, showing that the radium had not injuriously affected the medium. The possibility of diffusion alone being adequate to maintain sterility in such a patch may be seen from the following experiment:—A sterile patch was produced artificially by cutting out a piece of the agar from the centre of an inoculated plate, and filling up the hole with sterile agar. It was found that after two or three days' incubation bacteria would not grow on this patch.

These experiments, which were several times repeated, show fairly conclusively that the patch remains sterile because the bacteria in it, although not killed, are kept back until, by the growth of those in the rest of the culture, they are prevented from developing, either by the extraction of their food material, or by the introduction into the medium in which they are lying of toxins, or other products of metabolism. That there is very distinct diffusion could be seen by the examination of the results of experiments with *B. pyocyaneus*. This organism produces a green diffusible colour, which can be seen after two or three days' growth extending into the agar 5 mm. or more round isolated colonies, or 3 or 4 mm. inwards towards the centre of a sterile patch.

ART. VII.—*Clinical Pictures of Children's Diseases.*^a By
W. LANGFORD SYMES, M.D., F.R.C.P.I.; Pathologist to
the Royal City of Dublin Hospital; Physician to the
Orthopædic Hospital of Ireland, &c.

NO. XXIII. RICKETS.^b

IN writing a brief description of this disease we find ourselves face to face with the most important and far-reaching of all the affections of childhood. No class of society is exempt, and we see grave cases alike from the nobleman's castle and labourer's cottage. It is a "general" disease, inasmuch as the digestive, respiratory, nervous, and osseous systems participate in the dystrophy. It is difficult to give a concise definition of rickets, but it may be described as a general disease arising from malnutrition, affecting young infants from birth onwards, producing gastro-enteric disturbances, peculiar nervous phenomena, and profound changes in the bones, leading to deformities of the frame and stunted growth.

There are some varieties of the disease discernible in its clinical picture. "Small rickets," or "puny rickets," describes those cases where wasting is extreme, and arrest of growth has early taken place. "Large rickets" is commonly seen in overfed children of heavy, bloated frame, fat and unwieldy, but soft and "flabby," and exhibiting its most intense forms. "Syphilitic rickets" is merely rickets accidentally superadded to the troubles of a congenitally syphilitic infant, for the diseases are quite distinct, and is known especially by the presence of craniotabes and extreme "bossing" or nodular elevations on the cranial bones. These

^a These short essays have been dealt with mainly from the clinical aspect of the subject, as practical acquaintance with these diseases is much needed by senior students. They are based on original observations as recorded in my own case-books.

^b The term "rachitis" (ράχις, the spine) was coined by Glisson in 1650, because of the spinal affection; but the disease was previously described by Dan. Whistler as "*the rickets*" in his book published in 1645. This work is now exceedingly rare, but a copy exists in the Bodleian Library. The disease is evidently of great antiquity, for a statue of Æsop, of which a cast exists in the South Kensington Museum, is said to exhibit the deformities characteristic of rickets. Skeat traces the word rickets to the old English "*wrikken*," to twist, whence the term rickety was applied to tottering furniture.

are termed "Parrot's nodes," after the professor who strongly affirmed the identity of the two diseases. Other evidences of congenital syphilis are usually present. So-called "foetal rickets," or "ante-natal rickets," is intra-uterine in origin, for the dystrophy can occasionally be induced during the pregnant period of the mother by privations, serious illnesses, and numerous circumstances which may undermine foetal nutrition. Extreme cases resembling this condition have been termed "achondroplasia"^a (or "chondrodystrophia foetalis"), signifying arrested enchondral ossification in intra-uterine life; but here the bone changes are not truly rachitic, the stunted growth being due to the diminutive size of the shafts of the bones while the epiphyses remain large. This latter is an entirely different condition. "Late rickets" comes on after the second year, appearing even as late, in some instances, as ten years, but it is not so frequently observed—in fact, it is a condition of great rarity.

The disease can be divided into two distinct clinical stages—first, the early stage, where characteristic evidences are present, in which the disease is easily remedied by appropriate treatment, this I would term for convenience the sweating stage; and secondly, the established or permanent condition, where curvatures have become fixed in the bones, and a deformed frame results. It must not be imagined that the only changes worth noting are the bony ones; quite the reverse. But, as far as the stages which can be recognised in all cases go, the bony deformities mark indelibly the fixity of the permanent injury. Its early recognition is, therefore, of the most vital importance.

Ætiology.—The ætiology of rickets is now tolerably clearly understood. I do not think I have ever seen a case where I could not trace to its origin the cause of the disease. It is always some defect in nutrition. In some cases, but not in many, this error can be traced to bad health in the mother during pregnancy—*i.e.*, rapid child-bearing; suckling during

^a Achondroplasia, like rickets, must be of great antiquity, for Mr. George Pernet (*British Journal of Children's Diseases*, Jan., 1904) gives interesting sketches of old Egyptian statuettes, or representations of some of the ancient gods alluded to by Herodotus, from the British Museum, which exhibit the features of this disease. There is also in this Museum an archaic representation of a dwarf which goes back to 4000 B.C.

pregnancy, in which case both children may become rickety, the infant at the breast and the child *in utero*; phthisis; anæmia, &c. One of my cases was produced clearly by hyperemesis, or constant vomiting during pregnancy. After birth this child was apparently properly fed, but was born in a state of low nutrition, and rickets developed. It was, however, subsequently arrested by treatment. In another case twins were born, and one became rickety, the mother having gone through a severe attack of rheumatic fever during this pregnancy. In these cases the intra-uterine origin of the disease was clearly established. These cases are, however, rare. In the majority we find undoubted evidence of the evil effects of improper food. City life in warehouses and crowded slums has led to the impression that such environments cause it, but I have seen only one case where with these evil surroundings improper food could not be added as the true cause; while the worst case I ever met with came from the country.

Literature contains evidence that this idea is still prevalently held by many, as it was by the late Dr. Charles West, and that want of ventilation and bad air are prime causes of the disease. When speaking of condensed milk and its low nutritive value I alluded to this point, and a notable example of the fallacy has been related to me by a friend who has lived in the Falkland Islands. Rickets abounds amongst the children of the inhabitants in this group of islands. Its prevalence is quite remarkable. It appears that the high winds, which blow all day long there, are so violent that vegetable growth is stunted, and consequently grass and fruit cannot be cultivated. Hence an abundance of fresh milk cannot be had. Butter is bought at five shillings for two lbs., and is imported "canned" or tinned; while fresh milk cannot be obtained. The infants are, therefore, reared on condensed milk. These remarkable conditions of life are instructive to the student of rickets, for fresh, pure air and ventilation are here so excessive as to actually stunt the crops, while fresh milk, fruit, and vegetables cannot be had at almost any price. This goes far to disprove the supposed influence of insanitation in producing rickets, as held by some, while it immeasurably strengthens the view

which, from experience, I have always strongly held—that rickets is almost entirely a food disorder. I do not mean to minimise the evil effect of hot, ill-ventilated rooms, but I do contend that foul air acts secondarily to improper food.

E. M. Sill (*Med. Record*, Dec., 1902) recently cited 179 cases of children who were fed on sterilised milk, fresh, uncooked milk being withheld, and in 97 per cent. of these children rickets or scurvy developed.

With Professor Parrot's doctrine that rickets is invariably the outcome of syphilis my experience is at complete variance, and I have never seen the slightest evidence to support it beyond their accidental association.

The water theory, that lack of lime salts in drinking water was a prime cause, for many years held the field, but, except in one case, I have never been able to discover any ground for the belief. In this instance the child was fed on Mellin's food diluted with rain water, no other being available, since they had lived in Australia. But even here the food was erroneous.

With the foregoing few exceptions, which are extremely rare, the cause of rickets may be clearly stated as improper food. Artificial feeding from birth is undoubtedly the chief cause in most instances, and in nearly all the presence of starchy food is found as the prime factor.

The foods I have found most frequently used during early infancy in these cases of rickets are the following in their order of prevalence in Dublin :—

Bread and milk

Neave's food (and other patent foods).

Arrowroot

Oatmeal

Sago

Cornflour.

Then follow in equal proportions of cases :—Rusks, tea, gruel, potatoes, biscuits.

These foods may be eminently suited to children of older years, but administered to young infants under 12 months they are a most certain and positive cause of rickets. The exact pathological sequences which follow before rickets is produced are not as yet made clear by research ; but in the first instance

gastro-intestinal disturbance arises, and I apprehend that alimentary toxins are formed, which cause the general dystrophy. This, which one might term the *positive* theory of the direct mischief to which starchy food gives rise, must not be held as the sole cause; but it is remarkable that in all my cases direct administration of *vegetable foods* preceded the disease. Truly vegetarian diet is an absolute impossibility for human beings, and for young infants, it is the surest way to produce rickets. There is, however, also a *negative* factor, which in all cases accompanies the feeding, and it is a question which pathology has not yet solved—which is the most mischievous? I allude to the *absence of animal food* from the diet. Since rickets can be readily arrested by stopping the vegetable and substituting animal food, there is considerable evidence that it is the want of animal elements in the diet which induces the disease.

There is no doubt that fat and suitable proteid are the two main elements which will cure the trouble, especially the former, and in many cases healthy children can be reared upon artificial foods, provided a sufficient quantity of fat or cream be incorporated therewith. Butter, cream, cod liver oil, gravy and meat juice are the natural and sure antidotes for rickets, and in artificial feeding it is just the lack of these important animal and fatty elements which is notoriously common. When these elements rapidly cure the trouble in the early stages, one cannot doubt that the negative factor of the absence of animal and fatty food in the diet must be equally important in the causation of rickets as the positive injury which vegetable foods undoubtedly inflict. The normal diet of the child is a purely animal food of nutritive value with a high proportion of fat, and rickets will be most certainly produced if a vegetable diet is substituted therefor; moreover, it will be cured easily if a properly nutritive animal diet is again resorted to. These are definite physiological and clinical facts, and, in my experience, operate entirely independently of sanitation and water supply, and stamp the disease as altogether a food disorder.

Rickets is thus clearly a diet disease and a preventable malady, and, much as we may dislike it, we cannot shut our eyes to the fact that the appearance of rickets is a grave

testimony against the management of those in charge of the child during infancy. Some years of very careful study of its ætiology and treatment have convinced me of the truth of this statement.

It may be pardoned if in emphasis I repeat the historic experiences of the Zoological Gardens in London, graphically recounted by Dr. Cheadle in his excellent manual on "The Food Disorders of Infants." He says:—

"Mr. Bland Sutton, when hon. pathologist, informed me that the young monkeys, deprived of their mother's milk and fed entirely upon vegetable food, became rickety. The most remarkable case observed was that of two young bears who were fed exclusively upon rice, biscuits, and raw meat, which latter they licked but hardly ate, and who died of extreme rickets. That the condition is a true rachitis there can, I think, be no doubt. There is the same muscular feebleness, the same bending of bones, the same general debility; and the identity of the bony changes has been established by the observations of Mr. Sutton, who has so ably investigated the morbid anatomy of the disease. . . . Many young animals become rickety there, and it had been found impossible to rear the young lions from this cause; they invariably died, and died from extreme rickets. The lion whelps were fed solely upon the flesh of old horses, almost entirely destitute of fat. The bones were found to be proof against the teeth even of adult lions, and those of the cubs were powerless against them. About once a week they had goat's flesh, which is about the fatness of venison. So that, in this case again, animal fat and earthy phosphates would be deficient. The food of the young bears who became rachitic on biscuits and rice, and that of the young monkeys, fed chiefly on bananas and fruits, would be deficient in the same elements. The feeding of the last litter of lion cubs was commenced in the usual way. The dam had very little milk, which ceased entirely at the end of two weeks, and they were then put on horseflesh alone as before; they became rickety, and one died. Then, at Mr. Bland Sutton's suggestion, the diet was changed. The meat was continued, but in addition to it *milk, cod liver oil, and pounded bones* were given. No other alteration whatever was made in any way. They were kept in the same dens, with the same amount of air, and the same light, and warmth as before. The change which followed was remarkable. In three months

all signs of rickets had disappeared, and they grew up perfectly strong and healthy and well-developed. It was a unique event in the history of the society. You will observe that no change was made in the conditions of existence, except in feeding only, and the change in the food consisted practically in the simple addition of fat and bone salts. This is a most striking and crucial experiment in the production and prevention of rickets, and seems to be absolutely conclusive as to the chief points in its ætiology."

MICROSCOPIC APPEARANCES.

If a section is made through the "bead" of a rickety rib the following changes will be found:—At the normal cartilage end there are no vessels seen, merely hyaline cartilage with oval nucleated cells invested by its fibrous perichondrium. These cells gradually become swollen, branching, arranged in files and rows running towards the bone, but in no regular uniform fashion. No sharp line of demarcation indicates the line of ossification. At this level the cartilage is seen to become highly vascular, numbers of vessels being distended with blood cells, and these become more numerous as we approach the bone. The hyaline matrix now gradually gives place to a fibrocellular stroma, so-called osteoid tissue, in which you see numerous vessels choked with blood, while here and there appear but a few small islets of calcified tissue.

In this region, the widened middle zone of imperfect ossification, the would-be bone is composed of fibro-cellular or osteoid tissue, arranged in trabeculæ, somewhat Haversian in character, while numerous blood-vessels are seen over-distended and congested. The matrix of the so-called bone is thus fibro-cellular, neither true cartilage nor true bone, and excessively supplied with dilated blood-vessels. This fibrillation of the matrix I have seen so clearly in my own sections as to have little doubt of its structure. In the outer zones it may be seen to be continuous with the periosteum, but in addition to this it can be seen to extend far into the central trabeculæ.

Further along towards the shaft of the bone we still find this fibro-cellular matrix, extending with its canals filled with blood, tremendous—but futile—preparations having been made for the building of genuine bone, but which process is arrested short of its true ossification. The trabeculæ of the rickety

bone, although redundant, thus appear to be fibro-cellular, soft, and flexible, instead of being hard and fully ossified. I am aware that this is not the view commonly held, and it may be questioned by others, but from my own observations of my own sections, I am convinced it is so. In order to show this the sections must be very thin, and prolonged staining is required. We see then between the cartilage at the one end and the imperfectly developed bone at the other, a widened area of disease, whose chief characteristics are:—(1) An excessive and abnormal blood supply—a condition of chronic congestion, evidenced by dilated blood-vessels, which is very striking; (2) an excessive fibrosis or fibro-cellular growth extending in all directions even into the central trabeculae; (3) a postponement of the deposition of lime salts in this tissue.

It is reasonable to suppose that the first two conditions are closely related, as they undoubtedly are in other organs, and that the excessive fibrosis, which, I believe, swells the rickety bone, is caused by the abnormally increased blood supply. Chronic hyperæmia in other organs leads to fibrosis, and it is reasonable to assume that the same may occur in growing bone.

This vascular dilatation is evident all through the section, and you see it beginning at the cartilage end even before the bulbous fibro-cellular area is reached, and through which area it is still abundantly present.

Having arrived thus far in tracing the pathology of rickety bone by the microscope to fibrosis and vascular dilatation, and knowing from experience on the clinical side that the causes of the disease undoubtedly lie in the administration of food which ferments in the stomach and intestines, the link necessary to complete the chain is the proof that this gastro-intestinal fermentation in some way acts on the vasodilator apparatus. How far it does so by alimentary toxins, disturbance of the gastric acidity, or micro-organisms, I hope at a future time to discuss.

(To be continued.)

ART. VIII.—*Antitoxin in Diphtheria.** By H. C. MACQUAIDE, M.D., Univ. Dubl.

ANTITOXIN, or antidiphtheritic serum, began to be used as a remedy for diphtheria about twelve years ago. Its use and preparation were suggested by Behring and Kitasato in 1890, who were experimenting with a serum for the neutralisation of the tetanus virus, and suggested the application of the same principles in the case of diphtheria. It was first tried in von Bergmann's clinic in Berlin. The serum was very weak, and the dosage, as we know now, entirely insufficient. The serum was at that time prepared by using small animals.

Ehrlich and Wassermann, by using goats instead of the smaller animals, obtained a serum 20 to 60 times stronger than before. This they used the following year in over 200 cases, with a mortality of 23 per cent.; this was good compared with the previous mortality of 35 per cent.

Kotz the same year prepared a serum from horses, which he used in 163 cases with even better results.

From this time the attention of the general medical world was drawn to the subject, and antitoxin was widely used. The results at first obtained were apparently so contradictory that it was held by many to be useless, if not dangerous. In some cases the patients injected developed tetanus, and this naturally retarded its general use. The cause of this accident was soon discovered and removed, and the serum which is now prepared can be relied on to be free from the tetanus bacillus. Still it cannot be said that we have yet obtained an ideal serum, for there is little doubt that the use of the present serums is often followed by complications such as rashes, joint-pains, and pyrexia. Now these complications are believed to depend on something in the serum, which has no connection with the antitoxin but is connected with the particular horse from which the serum was obtained, and also with the concentration of the serum. These are defects which in time, therefore, can be removed.

* A Thesis for the Degree of Doctor of Medicine of the University of Dublin, read December, 1903.

Antitoxin serum has been usually employed subcutaneously, and also both by mouth and rectum, and as an intravenous injection. Its use both by mouth and rectum has not been successful. This was only to have been expected from a consideration of Ehrlich's theory of immunity, which is now generally accepted, and which assumes that the immunising or antitoxin value of a serum depends on the molecular arrangement of the antitoxin body, which is a proteid substance, and would be entirely altered in the process of assimilation from the digestive tract.

His theory, too, throws considerable light on the reasons why the antitoxin has not been more successful as used heretofore, for, remembering the extraordinary complexity of the proteid molecule, it explains the urgency there is for using the antitoxin as soon as possible.

My experience of antitoxin extends over the last four years, during which time I have used it in about 100 cases of diphtheria. I have always used it subcutaneously. This method is open to the objection that abscess may follow at the seat of injection.

Having prepared the skin so as to make it as aseptic as possible, I usually injected the serum under the loose skin beneath the angle of the scapula. I have never found an abscess follow the injection. The method is not usually painful, even for large quantities of serum. This seems partly to depend on the sex of the patient, for I have almost always found in children that the males were more sensitive to the pain of injection than females.

The first case of diphtheria in which I used antitoxin was the most virulent I have seen, the patient dying within three days from the onset of her illness. I saw her on the third day of the disease, and found her almost comatose, and with every appearance of profound toxæmia. She was roused with difficulty; her extremities were cold, her respirations shallow, and pulse feeble and rapid. On examining her throat I found both hard and soft palate, tonsils, and pharynx covered with membrane. I injected 4,000 units of antitoxin subcutaneously in the abdominal region without any apparent effect, as she died a few hours later.

This case might lead one to doubt the efficacy of antitoxin in cases so severe, but more recent experience has shown that even in such cases antitoxin, if properly administered, may save the patient. I refer to the method of intravenous injection. This was first practised last year by Dr. Cairns, of Glasgow. His results show that the intravenous method may be successful even in the most severe cases. His description of the case in which he first practised this method is as follows:—"The patient was pulseless, and apparently moribund, the extremities as well as the surface of the body being cold and livid, the lips were swollen and cyanotic, the face puffy and yellowish-white in colour; the heart was beating very rapidly, the respirations 60 to the minute, there was laryngeal obstruction; tracheotomy was performed with little relief, and then 26,000 units of antitoxin were injected into the median basilic vein. The patient slept well after the operation. For 36 hours she scarcely improved, during which time she had repeated injections of strychnine and caffeine, which had a beneficial effect on the pulse; then signs of improvement began to show themselves coincidentally with a copious discharge of muco-purulent matter from the tube. From this point the patient steadily improved, and made a good recovery." This is not a solitary case, as Dr. Cairns has now a series of 50 consecutive cases, in 20 of which he has used the method of intravenous injection. He was led to try the intravenous method from his experience with plague serum, where he found that the serum seemed to lose a large percentage of its efficacy in passing through the lymphatic circulation; this, too, is in accordance with Ehrlich's theory, for assuming the antitoxin to be protoplasmic and not a fixed chemical substance, it can easily be imagined that it might be fundamentally altered in passing through the lymphatic glands. The result of his 50 cases gave a mortality of only 6 per cent.

The value of antitoxin depends greatly on the time of its administration, independently of the amount or method of using it. I found in my cases that if injected the first day in sufficient quantity (and latterly I never injected less than 2,000 units) it usually cut short the attack, and in some cases so rapidly that I was compelled to doubt the

accuracy of my diagnosis. The following case of diphtheria in which I injected antitoxin the first day is typical of many in my experience :—The patient, a girl aged five years, had been heavy and drowsy all day. I saw her that evening and found her in a feverish condition. On examining the throat I found the tonsils and part of the pharynx and soft palate covered with a tenacious membrane. I attempted to remove some of it from the soft palate, which bled easily. I then injected 2,000 units of antitoxin, and the following morning she was much better; the drowsy, stupid condition had passed off, and the membrane had begun to separate at the edges, rolling off as it were, to be finally coughed out. This was the usual course of the pharyngeal cases, if injected the first day. This corresponds with the general experience for Dr. Otto Jelisch, who has analysed over 127,000 cases from all sources, and finds that cases injected with antitoxin the first day give a mortality of only 5 per cent.

As a rule, the cases injected with antitoxin the first day may be expected to make a rapid recovery. The exceptions in my experience were those cases in which the larynx was involved, while a reference to a report of the Metropolitan Asylums Board shows, as might be expected, that in cases of mixed infection where streptococci, and more often staphylococci, are found in the membrane, antitoxin is not nearly so successful.

The following is a laryngeal case :—The patient was a boy aged about five years, he was in the dull, toxæmic condition which is characteristic of severe diphtheria. There was no membrane visible; he had a croupy cough, and inspiratory stridor. I injected 2,000 units of antitoxin, and had him placed in the steam tent. The following morning, as he did not appear much better, I injected another 2,000 units. He was very restless, cyanosed, and apparently sinking. I advised a tracheotomy; this was refused. Before the evening, however, he began to cough more softly, and from that time he made an uninterrupted recovery.

My next laryngeal case was in a child who had previously had several attacks of simple catarrhal laryngitis. I did not inject until the third day. In this case, too, I injected the serum into the abdominal region, but unsuccessfully, the

patient dying the following day. This case shows both the necessity of early injection and of larger doses of the serum.

It has been stated that the use of antitoxin predisposes to the occurrence of post-diphtheritic paralysis. I have had but one severe case of this kind. It was fatal. The patient, a boy aged ten years, had his pharynx and tonsils severely affected; the membrane, however, did not spread to the larynx. I injected him with 2,000 units of antitoxin the first day of his illness. The following day the membrane separated and his general condition was much improved. On the 9th day, however, he began to have difficulty in swallowing from paralysis of his soft palate, and later his heart began to fail. He died of syncope on the 18th day of the disease.

In referring to the various statistics relative to this point, it would appear that paralysis is more frequent with the use of serum, and this can be explained by the fact that in serum cases, terminating fatally, life is much prolonged, and thus the paralysis has time to develop. Ransom's experiments on animals throw much light on this question, for he finds that paralysis depends on the toxicity of the inoculation, and that neutralised doses of toxin and antitoxin do not appear to cause paralysis. It is thus fair to assume that in severe cases, with a great deal of toxæmia, paralysis is likely to occur if the patient lives long enough, and that if antitoxin is given early and in sufficient amount paralysis will probably be prevented.

By thus prolonging life in these cases opportunity is given for the use of other means of eliminating the toxin.

Schoull, of Paris, in an apparently hopeless case of post-diphtheritic paralysis, which had been treated with antitoxin, injected a litre of Hayem's serum into the median basilic vein to wash the blood as it were. This gave a marvellous result; the patient in a dying condition in the morning, appeared out of danger in the evening, and he made a complete recovery.

As a preventive of diphtheria antitoxin has proved remarkably successful. In some large institutions, in which formerly the disease was never absent, since the introduction of the practice of giving immunising doses of antitoxin, the

disease has been completely exterminated. It has been found that antitoxin only confers immunity for about three weeks.

My experience with antitoxin, then, would suggest the following conclusions:—Every case of diphtheria should be treated with antitoxin; the serum must be given early and in large doses; and all individuals exposed to infection should be given immunising doses of antitoxin; finally, the serum is a specific in diphtheria if properly used.

ART. IX.—*Some Public Health Problems in Ireland.** By
SIR JOHN W. MOORE, M.D., D.P.H., Univ. Dubl.;
F.R.C.P.I.; President of the Section of State Medicine
in the Royal Academy of Medicine in Ireland.

INTRODUCTORY.

FOR the third time I have been called to preside over this Section of the Royal Academy of Medicine in Ireland. It is hardly necessary to say that I look upon such a mark of confidence as a very signal and gratifying compliment, of which I may well be proud, and for which I return you my most hearty thanks.

On February 5, 1885, I addressed this Section—or, as it was then, Sub-section—of the Academy on “Sanitary Organisation in Ireland in its Medical Aspect.” Two years later, on February 3, 1887, the subject of my Inaugural Address was “The Present and the Future of State Medicine.”

In the seventeen years, which have passed away since the latter date, State Medicine has made unexampled progress in all its departments—Sanitary Organisation in Ireland, on the contrary, has advanced “with halting steps and slow.” Yet substantial advance has taken place in many directions even in this country.

NOTIFICATION.

In 1887 I had to deplore an uncompromising opposition to the principle of Compulsory Notification of Infectious Diseases on the part of the vast majority of the Medical

* An Address inaugurating the Session of 1903–1904, delivered before the Section of State Medicine in the Royal Academy of Medicine in Ireland, on Friday, February 12, 1904.

Profession. On the 30th of August, 1889, an "Act to provide for the Notification of Infectious Disease to Local Authorities" (52 & 53 Vict., chapter 72), received the Royal Assent at the hands of Queen Victoria, most revered and best beloved of British Monarchs. All opposition to the principle of notification has long since happily died out, and the Act has now been adopted practically throughout the length and breadth of the land, with untold benefit to the public health.

The provisions of the "Infectious Disease (Notification) Act, 1889," are too well known to the Fellows and Members of the Academy to need any explanation at my hands. I may, however, refer to a useful application of the Act, whereby comparatively trivial infections which simulate more serious maladies, like chicken-pox in its relation to small-pox, or rubella in its relation to measles or scarlatina, are temporarily added to the schedule of notifiable diseases when the more deadly infections threaten to be, or are, epidemic.

On August 4, 1890, an "Act to Prevent the Spread of Infectious Disease" (53 & 54 Vict., chapter 34), shortly called the "Infectious Disease (Prevention) Act, 1890," was put upon the Statute Book, with the object of enabling sanitary authorities to give practical effect to preventive measures based on information obtained through notification.

These two measures—the Magna Charta of Public Health—passed by an enlightened Legislature, have been cordially received and worked by the Medical Profession, who with a noble self-denial have once more admitted the truth of the adage—"*Salus Populi, Suprema Lex.*"

QUALIFICATIONS IN PUBLIC HEALTH.

A second great advance has been the official recognition of Diplomas in State Medicine or Public Health. The initial step had been taken in 1886, when the Medical Act (49 & 50 Vict., chapter 48), by its twenty-first section, provided for the registration by the General Medical Council of "Diplomas in Sanitary Science." Since January 1, 1892, the Medical Officer of Health of a county, district or combination of districts with a population of 50,000 or upwards, must, in addition to his qualifications in medicine, surgery and midwifery, be registered as the holder of a Diploma in Sanitary

Science, Public Health, or State Medicine, under Section 21 of the Medical Act of 1886. It is gratifying also to note how many officers in the Naval, Military and Indian Medical Services are taking this higher qualification. In my Address to this Section in 1887, I recalled the fact that to the University of Dublin belongs the credit of having been the very first institution in the United Kingdom to establish a Diploma in State Medicine, or (as it is now called) "Public Health." The first examination for the Diploma took place in June, 1871—nearly three and thirty years ago—when it was granted to Dr. Arthur Wynne Foot, Dr. Gerald Francis Yeo, Dr. John Todhunter, and myself.

TUBERCULOSIS AND ITS PREVENTION.

A notable contribution to the literature of this all-important question has very recently been published. I refer to an article in *Tuberculosis* for January, 1904, on "The Present Position of the Tuberculosis Problem in Ireland," by Dr. Alfred E. Boyd, Honorary Secretary of the Dublin Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis. Dr. Boyd shows by figures taken from the Annual Report of the Registrar-General for Ireland for 1902 that the deaths from tuberculosis in Ireland in that year were 11,837, against 12,335 in 1901, and an average of 12,716 in the ten years 1891–1900. Phthisis, or pulmonary consumption, was responsible for 9,400 deaths in 1902. The highest county death-rates for tuberculosis in general for the same year are—Dublin County Borough, 4.7 per 1,000 of the population annually; Belfast County Borough, 4.0; Dublin County, 3.5; Cork County and Cork Borough, 3.0. The lowest rates are—Cavan, 1.5; Roscommon 1.6; Mayo, Fermanagh, Longford and Donegal, each 1.7.

For the whole country the deaths in 1902 represent an annual death-rate of 2.7 per 1,000 of the population—the lowest rate recorded in Ireland since 1896. Commenting on these figures, Dr. Boyd observes: "The upward tendency, which during recent years has caused grave anxiety, has thus been checked, and there is ground for hope that ere long there will be a substantial decrease in the prevalence of tuberculous disease in Ireland."

Having described what has already been done in Dublin to cope with the evil, Dr. Boyd sets forth the chief measures still required, in order to control tuberculosis in the metropolitan district as follows :—

1. The extension and development of existing institutions for the isolation of the incurable, and for the treatment of patients in the early stages of consumption.
2. The provision of public bacteriological laboratories.
3. Compulsory notification of phthisis.
4. The instruction of all consumptives and the periodical disinfection of their houses by the local authorities.
5. The prevention of spitting in public vehicles and thoroughfares.
6. The instruction of the young in schools in the principles of general hygiene, and in the special means which may be adopted to prevent tuberculosis.

It seems to me that some such scheme as the following should be carried out with the view of checking the awful ravages of consumption in this country :—

I. The rise and spread of tuberculosis in the cottage homes of the peasantry and in town dwellings must be grappled with by—

1. Notification, which should be compulsory.
2. Verification of the diagnosis by means of bacteriological examination of the sputum, &c.
3. Removal of the patients to “hospital,” using the term in its fullest sense.
4. Periodic inspection of the homes of the tuberculous.
5. Periodic disinfection of those homes.

II. The provision of “hospital accommodation” for—

1. Early cases, with a view to cure.
2. Advanced cases, to provide comfort for the dying, and to secure safety for the living.

[The expression “Hospital Accommodation” should include “isolation hospitals,” “sanatoriums,” “consumption wards,” and hospices for the dying.]

III. The vigorous and absolute segregation of tubercular cases in workhouses, asylums, and other public institutions.

IV. Education of the public in all matters relating to the prevention and management of pulmonary tuberculosis.

V. Improvement of the housing of the working classes and of the very poor, especially in towns.

THE HOUSING OF THE POOR.

Closely connected with the prevention of tuberculosis is the question of the housing of the working classes and of the very poor—a very burning question in Dublin of late years. It will be within the recollection of the Fellows of the Royal Academy of Medicine in Ireland that in 1900 the Local Government Board for Ireland appointed a Committee to inquire into the public health of the City of Dublin. In their Report, dated May 14, 1900, the Members of that Committee made special allusion to the insanitary circumstances in which a considerable proportion of the population of Dublin lives. "Large tenement houses, each room occupied by a separate family; the house itself in a state of dilapidation; water supply inconvenient of access; dirty common stair-cases; inadequate water-closet accommodation in a foul state; back yards ill-paved and littered with refuse and excrement, are conditions of life in Dublin which are frequently encountered in connection with the dwellings of the poorer classes." The Committee point out that these conditions tend to produce a state of lowered vitality favourable to the contraction of disease, and to a fatal result of disease when contracted. They also directly encourage the spread of infective maladies, including phthisis and other forms of tuberculosis, which are excessively prevalent in a fatal form in Dublin. Strict cleanliness in the home is of the first importance in checking the spread of consumption, and cleanliness finds no place in most of the houses occupied by the Dublin poor. And, in this connection it has to be borne in mind that the proportional amount of poverty in Dublin is very large, so that the unfavourable conditions associated with the houses of the poor are widely spread throughout the city.

The very first measure for improving the health of Dublin recommended by the Committee refers to tenement houses. It is pointed out in the Report that any improvements in these numerous and widely scattered insanitary dwellings must react favourably on the health of the city. The walls and structural parts of many of the large houses, which were

formerly the residences of only one family each, but which are now occupied by a number of separate families, are in fairly good order. But the structural conditions of many tenement houses more recently built are much less favourable. In the inadequacy of sanitary accommodation for these houses, danger to public health also arises.

The Committee go on to state that "the question of the housing of the poor of Dublin is one of magnitude. The provision of an adequate number of healthy dwellings by way of relief for the present overcrowding of population under unhealthy conditions in congested districts of the city must, of necessity, be on a considerable scale, and would probably involve several schemes for this purpose. Accordingly, in schemes for the provision of dwellings for the poor, there would be advantage in selecting sites in neighbourhoods less densely populated than those now inhabited by the class for which such provision should be made. These sites could best be obtained outside the city, in localities within easy access of the principal business quarters of Dublin. In these schemes it should be borne in mind that healthy dwellings are especially needed in Dublin for the very poor. Houses, therefore, intended with this object should be of the plainest kind, in order that such schemes may not entail heavy loss upon the ratepayers."

As to this last point, we must remember that anything which will reduce the liability to epidemic disease will be a direct saving to the ratepayers. It was calculated that the small-pox outbreak of 1878 cost the City of Dublin not less than twenty thousand pounds sterling.

In the paper from which I have already quoted Dr. Boyd points out that much has been done, and is being done, in Dublin to mitigate the evil of overcrowding. The Dublin Artisans' Dwellings Company, the Iveagh Trust, and the Corporation of Dublin, "have erected modern buildings on sites which were formerly covered by houses in which sanitation was too often primitive, and in which healthy existence was almost impossible; while the Association for the Housing of the Very Poor, the Social Service Tenements Company, and the Alexandra Guild have, in a smaller way, attacked the problem by buying buildings which were capable of

renovation, rendering them sanitary, and letting them to the poor at rents which cover expenses, and in some cases allow of a small rate of interest being paid on the capital invested." The Social Service Tenements Company is worked by students and others connected with Trinity College, Dublin. The Alexandra Guild is connected with the Alexandra College, Dublin, an institution for the higher education of women. The Urban District Councils of Rathmines, Pembroke, Kingstown and Blackrock are also engaged in extensive building operations for the better housing of the working classes and the poor. In the very heart of the city the space between the ancient Cathedrals of Christ Church and St. Patrick has, within the past few years, been changed as by a magician's hand. A charming park and wide, well-paved streets, with airy well-built houses, have taken the place of squalid lanes and alleys, reeking with filth and hot-beds of disease—typical "fever-nests," such as were so graphically described by the late ever-to-be-lamented philanthropist and sanitarian, Dr. Thomas W. Grimshaw, C.B., Registrar-General for Ireland. In many other districts also, both north and south of the River Liffey, wholesome homes for the industrious working classes have sprung up under the auspices of the Dublin Artisans' Dwellings Company. "Old Dublin" is, in fact, rapidly disappearing and with it typhus fever has already well nigh disappeared.

WORKHOUSE REFORM.

I wonder whether at the present time a single champion of the existing Poor Law system of Ireland could anywhere be found.

In the first place universal suffrage and the Local Government (Ireland) Act of 1900 have flooded the Boards of Guardians all over the country with "representatives" of the sovereign Plebs. In many instances these men are, from the accident of their birth, social position, calling and education, incapable, however well-meaning they may be, of discharging their duties to the poor and infirm in an enlightened, philanthropic spirit, untrammelled by political and sectarian considerations. A single instance by way of illustration must suffice :—The Medical Officer of Granard

Workhouse—himself a Roman Catholic—complained that his patients were not being properly nursed. The nurses were Nuns, the rules of whose Sisterhood forbad them carrying out certain details of sick nursing. What was the result? The Sisters resign. The Bishop of the Diocese espouses their quarrel. An unseemly wrangle between the Local Government Board and the Guardians ensues, and drags on for months. The Bishop insists on an apology to the Nuns by the Medical Officer, who did nothing more than his duty. And so the interests of the sick poor are wantonly sacrificed.

But matters are even worse when we come to consider the internal economy of the workhouses of our land. As it exists, it is a grave scandal and a national disgrace.

The "workhouse system," says Miss Emily Buchanan (herself a Poor Law Guardian) in a paper read by her before the Philanthropic Reform Association on September 22, 1903, "is unjust and distasteful to the sick and helpless classes, and is only too attractive to the undeserving who thrive upon its corruptions. In no other country in Europe, outside the United Kingdom, is such a system to be found."

People of all ages and of both sexes are massed together in institutions where, contrary to the Law of Nature, they are supplied with the necessaries of life without the trouble of working to obtain them. The sick poor who enter the workhouse hospitals become ordinary pauper inmates of the workhouse if they do not leave at once when convalescent. Sane epileptics drift from the union hospital into the lunatic wards. Imbeciles and the harmless insane are found in nearly all the workhouses of Ireland. Respectable old people are housed with the unworthy, the dissolute, and the degraded. But it is the young children who are in the most wretched case. Born, it may be, and bred in the workhouse and its squalid surroundings, what hope is there that pauper children will make good citizens of the State in after-life? Surely their pitiable condition calls loudly for redress. Reform should proceed on some such lines as the following:—

1. All children should be boarded out, and properly educated.

2. The respectable aged poor should also be boarded out. In Denmark there are asylums apart from the workhouses

for the reception of old men and old women, who, through no fault of character, but by reason of advancing years and failing powers, have been reduced to penury. In these asylums they find a comfortable home and retain their self-respect.

3. No lunatics or epileptics should be admitted to the workhouse. This is the law in England and Scotland.

4. The union hospital or infirmary should be entirely separate from the workhouse ; nor should the hospital patients be drafted into the workhouse when convalescent.

5. It is desirable that women inspectors should be appointed under the Local Government Board. The principle of such an appointment has already been admitted in regard to boarded-out children. To the Irish Workhouse Association, headed by its noble President, Lord Monteagle, is due the credit of initiating this great reform.

6. The employment of fully-trained nurses should be compulsory on all Boards of Guardians.

These are some of the lines along which Poor Law Reform should move.

It will be objected that all this means expense and a raising of the Poor Rates. Even if it did, the welfare of the poor outweighs the silver and gold. But a vast improvement in the directions indicated can be achieved at a comparatively slight cost, provided retrenchment is effected in other directions. I have heard it alleged—I cannot vouch for the correctness of the statement—that, of the Poor Rates, 60 per cent. is spent on salaries, and only 40 per cent. on the poor !

THE POOR LAW MEDICAL SERVICE.

At last—after long years of unaccountable apathy—the Medical Profession appears to be awaking to a sense of the grave and most unsatisfactory state of what may be called “The Home Medical Service.” The lot of the average dispensary medical officer in Ireland is, of a truth, not an enviable one. Overworked and underpaid, at the beck and call of masters whose views as to his duties and their rights are not always controlled by that “sweet reasonableness” which is begotten of a liberal education and a ripe experience of the world ; hampered in his ministrations to the sick by

official book-keeping ; with no prospect of promotion after years of toil and drudgery ; face to face with the conviction that he must die in harness, or run the risk of retirement without pension or "superannuation"—what a calling is this for a member of a "Learned Profession !"

It is, however, in the aspect of the question which bears on the sanitary organisation of the country that the interest of the State Medicine Section of the Royal Academy mainly centres. The members of the Section will remember that every dispensary medical officer is *ipso facto* medical officer of health for his dispensary district. He is *obliged* to perform many and onerous duties, which are specified in detail in an order to sanitary authorities issued by the Local Government Board under the Public Health Act of 1878. Additional duties have been imposed upon him by subsequent Acts of Parliament, such as the Labourers' Dwellings Acts, 1890 and 1893 ; the Infectious Disease Notification Act, 1889 ; the Infectious Disease (Prevention) Act, 1890 ; the Public Health Amendment Acts of 1884 and 1885 ; the Housing of the Working Classes Act of 1903 ; and the Local Government (Ireland) Act of 1898.

For these multifarious and highly-responsible duties a shamefully inadequate remuneration has been fixed at the instigation, and with the approval, of the Local Government Board for Ireland. The Sanitary Authorities are no doubt to blame for having so grievously misjudged the value of skilled services rendered to Preventive Medicine by the local medical officers of health ; but the chief fault lies at the door of the central controlling authority—the Local Government Board—which should have refused to sanction mere nominal salaries to the medical officers of health, whose duties were bound to be anything but nominal unless the administration of the public health code in Ireland was to be a sham.

As has been already stated, in the year 1900 the Local Government Board for Ireland appointed a Committee to inquire into the public health of the City of Dublin. I had the honour to serve on that Committee, and I need not say with what deep regret I felt bound, after hearing an immense mass of evidence, to subscribe to the following finding of the Committee :—"The evidence laid before us leads to the

belief that the provision of Section 11 of the Public Health (Ireland) Act, 1878, whereby each Dispensary Medical Officer is obliged to act as Medical Officer of Health for his Dispensary District, has worked unsatisfactorily in Dublin, and should be altered."

Let me not be misunderstood. The Committee found no fault with the way in which the duties of medical officer of health had been discharged by the sixteen dispensary medical officers of the City of Dublin districts. Quite the contrary. Their conduct has been on all occasions most praiseworthy, self-denying and devoted. But their executive power existed only in name; they could do little more than report; they were little better than "sanitary sub-officers"—to quote the ridiculous nomenclature of the eleventh section of the Public Health Act of 1878; the many claims upon their time as district physicians curtailed their usefulness as health officers.

Effect, however, has not been given to the recommendation of the Committee that the public health duties of the dispensary medical officers "should be discharged by an assistant medical officer of health, who should receive an adequate salary, and who should give his whole time to the duties of his office." In Dublin, as throughout Ireland, the dispensary medical officers remain the medical officers of health for their respective districts, and what I now contend for is that this hard-worked, badly-requited body of public servants, whose efforts for the health and welfare of the community are often misunderstood, seldom, if ever, appreciated, should be properly recompensed for their services under the Public Health Acts. If this is done, and if the suggestions for the betterment of the health of the people, made by the local medical officers, are carried out intelligently and in a generous spirit, the dawn of a brighter day for the Irish race will at last be near at hand.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Johns Hopkins Hospital Reports. VOL. XI. Nos. 1-9.

Baltimore: The Johns Hopkins Press. 1903. Pp. 555.

THIS large volume contains only three papers. The first, which we may call almost a monumental work, is entitled: "*Pneumothorax—A Historical, Clinical and Experimental Study.*" It is by Dr. Charles P. Emerson. It runs to 450 pages, and has been undertaken at the suggestion, and written under the inspiration, of Dr. Osler.

It commences with an account of the literature, in which is given not merely a list of authors, but abstracts, often very extended, of their works. More than 358 such works are analysed, extending from Hippocrates, 5th cent. B.C., to Aron, 1902 A.D.

In the second chapter the history of pneumothorax is given. To Laennec is attributed the most important contribution to our knowledge on this subject, as he first recognised pneumothorax during life, while the Dublin physicians "really gave us some of the best and earliest clinical descriptions of the cases."

In the third chapter we have the ætiology and pathology, with clinical histories of cases. The causes of pneumothorax are classified under diseases of the lungs; thoracentesis; miscellaneous conditions affecting the lungs, such as foreign bodies, hydatids, whooping-cough; diseases of the pleura; traumatic pneumothorax; pneumothorax due to causes external to the chest; and idiopathic pneumothorax, due to the putrefaction and the action of aërogenous bacteria on a fluid effusion. A section on the clinical forms of pneumothorax—as valvular, closed, open, double, active and passive, recurrent pneumothorax—is given. Forty-eight clinical records illustrate many of these cases, and give details of many of the forms, including some examples of the not frequently recorded cases of pneumothorax necessitatis. Fourteen trau-

matic cases also are recorded, mostly bullet and stab wounds, in which, although the lung was certainly injured, pneumothorax did not result.

The fourth chapter is on the mechanics of pneumothorax, including the nature and explanation of the physical signs. In this chapter we have some valuable experimental work by the author.

It has been supposed that a cohesion exists between the layers of the pleura, like that between two plates of wet glass, so that although the visceral and parietal layers can glide freely on each other, they are separated with difficulty. This supposed cohesion would hold the lung in contact with the chest-wall if a small incision were made into the pleura. Dr. Emerson finds that no such cohesion exists. He introduces a few cubic centimetres of air into the pleural cavity of a dog just dead or dying. If cohesion existed the pneumothorax should remain limited to the place where the air was introduced. But after freezing the body and making a cast of the air-containing cavity, it was found that this was always at the upper part of the chest, however the animal was placed. The contact between the pleural layers, or even the bulging of the lung through the wound, which has sometimes been observed, is due mainly to the forcing of air over from the sound lung across the tracheal bifurcation.

Another point on which interesting experimental observations were made is the distension of the side in pneumothorax. Measurements were made of the pleural pressure during inspiration and expiration in dogs.

“ If the capacity of the thorax be encroached upon, by introducing successive portions of air or fluid, one would expect the negative tension at the end of expiration to progressively diminish to 0, and if the injection be continued to progressively rise in positive value. But this does not happen. To be sure, the negative pressure is soon relieved, and if enough be introduced a large positive pressure is produced ; but the matter is not one of steady progression, the animal is able to accommodate itself to a considerable encroachment upon the capacity of its chest, and still have the pressure nearly 0 at the end of expiration, and to produce almost a normal negative tension at inspiration ; this it

can do only by increasing the capacity of the chest by elevating the ribs or depressing the diaphragm. In this way we may have the chest assume very different sizes and still be of the same intrathoracic tension. But the more the distension necessary to maintain this base line of approximately equal expiratory pressure, the greater the muscular exertion necessary to produce the desired negative inspiratory pressure, and we may have the dog now with a slightly distended chest and breathing quietly, now with a distended chest and very dyspnoëic, yet with pressures which differ but little, or at least so little that it is not at all in proportion to the difference in air or fluid injected. The mechanism by which this is attained is probably reflex; the dogs were under an anæsthetic (ether). With each addition of fluid the chest cannot return at the end of expiration to its previous volume, hence accepts that volume as its zero point, and tries to respire as well with this as its starting point."

Several analyses of the intrapleural gas in pneumothorax have been made. On this subject also we find here an interesting investigation. The following are the conclusions arrived at:—

"If air (or a gaseous mixture containing 98 per cent. of oxygen) be introduced into the chest of dogs there is an almost immediate accumulation of CO_2 and diminution of O in the pleura.

The N per cent. is remarkably constant until a point at which one may suppose absorption of the gas is well under way, when the N per cent. rises about 8 per cent., and then remains quite constant.

The composition of the mixture depends on the gases of the blood and also on the local respiration of the tissues. This is shown by the slow and comparatively slight changes resulting from our suffocation experiments as well as by the work of others mentioned above.

That the local tissue respiration is to be considered is shown by the rapid accumulation of CO_2 after death.

In the case of man the following points may be made:—Gas analysis has very little value in the diagnosis of the condition of the fistula, for—

1. There is a rapid accumulation of CO_2 in the pleura after death, which fact rules out the majority of analyses yet published.
2. The presence of a purulent exudate is an important

element in determining the composition of the gas (leading to increase of CO_2).

3. This *post-mortem* accumulation of CO_2 may explain the high tension of the gas which hisses from the chest on the autopsy table.

4. The method of diagnosing an open fistula proposed by Leconte and Demarquay seems valid."

(This method consists in analysing separately the different successive portions of gas drawn off, and finding an increase in the percentage of O to occur during the aspiration, showing passage of air into the chest through the open fistula.)

In the last chapter the symptoms, course, diagnosis, prognosis and treatment are discussed.

The second paper in the volume gives the results of *Clinical Observations on Blood Pressure*, by Dr. Henry Wireman Cooke and Dr. John Bradford Briggs.

The authors employ a modified Riva-Rocci sphygmomanometer. Their records are drawn on charts giving the pulse and blood pressure, and are exceedingly clear and graphic. They find that in children under two years of age a mean pressure of from 75–90 mm. Hg. is to be expected; during early childhood 90–100; in young adults 130. In women the pressure is usually 10–15 mm. lower than in men. In the sitting or standing position the pressure is 5–10 mm. higher than in dorsal decubitus.

Observations made during anæsthesia showed that ether causes a transitory initial rise, with only a slight later fall, and causes no real depressant action, but acts rather as a stimulant. Nitrous oxide induces a rise due to the associated asphyxia. Chloroform is distinctly depressant from the first, and throughout the pressure remains low. Curiously, during labour, which in itself causes a rise of pressure, chloroform may be taken without ill effect.

During operations all procedures which would cause pain, even under anæsthesia, cause a rise of pressure; "the patient may be said to be suffering subconscious pain." Shock during operations is always preceded and accompanied by fall of pressure, and there is no other sign which indicates so surely its imminence.

Surgical and traumatic shock is made the subject of a long section, and very valuable rules are given as to the best methods of treating it in different cases.

Interesting observations are recorded on the fall of blood pressure caused by hæmorrhage, and on the variations of pressure occurring during pregnancy, labour and puerperal eclampsia.

Some very striking charts show the transitory lowering effect of amyl-nitrite and of nitroglycerine in conditions of increased tension.

While it is maintained that alcohol, when it produces any effect at all on blood pressure, tends to lower it, it is shown that tobacco raises the pressure.

Valuable observations are made on the pressure in some of the acute infective diseases, particularly typhoid fever. In this disease there is always low blood pressure, and—

“The indication, in kind and amount, for stimulant drugs, can be derived from blood pressure estimations with almost mathematical exactness.

“With perforation and peritonitis there is an early and striking rise in the period of peritonæal irritation, exactly comparable to that occurring early during laparotomy, and equally certain to be followed by a rapid and profound depression.”

Among the stimulants which raise blood pressure the first place is given to strychnin and digitalin. Camphor is of much less efficacy, in many cases inert. As already stated, the stimulating (pressure increasing) action of alcohol is denied. Large saline infusions given hypodermically were found to be without cardio-vascular stimulant effect, but in the hypotension caused by hæmorrhage they may have some effect by mechanically increasing the circulating fluid.

Our space prevents us from doing anything like justice to this paper, which is full of interesting observations and valuable indications for treatment.

The remaining paper is by Dr. Martin B. Tinker, on *The Value of Tuberculin in Surgical Diagnosis*.

It is based on the results of 400 cases. The tuberculin used was made according to the original method of Koch.

It was found that doses of from one to three milligrams, gradually increased to nine milligrams, were harmless to both tuberculous and non-tuberculous subjects. The latter gave no reaction with six milligrams. A reaction with even nine milligrams is strongly presumptive, but not positive, evidence of tuberculosis. Dr. Tinker looks on the use of tuberculin as not only harmless but of high diagnostic value. He has found it of greatest aid in cases where the uncertainty lay between tuberculosis and hysterical, traumatic, or rheumatoid disease of the joints. In such cases an early diagnosis, while the disease is in a curable stage, is very important. In several cases of tuberculosis of the kidney the diagnosis was made by tuberculin, and subsequently confirmed by operation, when bacilli could not be detected in the urine. No case of tubercular adenitis failed to give the tuberculin test, while nine cases of Hodgkins' disease, and many cases of cysts and other tumours in the neck, all gave no reaction. Only two cases of osteomyelitis out of twenty-five reacted. No cases of actinomycosis or of syphilis reacted to a moderate dose of tuberculin.

The author propounds an ingenious theory to explain the tuberculin reaction, and why it fails if the patient is already markedly febrile, and why it is given even by healthy subjects if the dose is excessive. For this, however, and for much other interesting matter which our space does not permit us to notice, we must refer our readers to the paper itself which will well repay perusal.

The Errors of Accommodation and Refraction of the Eye and their Treatment. A Handbook for Students. By ERNEST CLARKE, F.R.C.S. With 84 Illustrations and One Coloured Plate. London: Baillière, Tindall & Cox. 1903. Cr. 8vo. Pp. x + 225.

OF making many books there is no end, and much study of them is a weariness of the flesh, yet fresh books still appear in an unending succession, each claiming to fill a gap where no gap seems to exist.

Dr. Clarke, in his preface, tells us that he has tried to make his book, which is based on lectures delivered at the Central

London Ophthalmic Hospital and the Medical Graduates' College, essentially practical. He has, therefore, omitted all matter unnecessary for the busy practitioner or overburdened student.

Recognising, however, the importance of asthenopia in medical treatment, he has given the subject a prominent place throughout the book.

In places his definitions are too lax for accuracy, as at page 109, where, in defining astigmatism, he calls it "a condition in which rays of light, passing through the dioptic apparatus, do not focus at a single point." To one who knows the subject it is easy to fill in the deficiencies in this definition, but it is bewildering to a student.

We would also have preferred him, as an Englishman, to stick to the English formation of words, and not make use of such Americanisms as "hyperopic" and "symmetric" when he means hypermetropic and symmetrical.

On the whole, however, he has fulfilled the promise of his preface and has produced an admirable *résumé* of the most practically important facts in connection with the subject. It is simple, concise, and lucid, and it may fairly take its place amongst the useful books of the year.

Husband's Forensic Medicine, Toxicology, and Public Health. Seventh Edition. Revised and Enlarged. By R. J. M. BUCHANAN, M.D., B.Ch. (Vict.), M.R.C.P. Lond., M.R.C.S. Eng., Assistant Lecturer on Forensic Medicine and Toxicology in the University of Liverpool; and E. W. HOPE, M.D., D.Sc., Professor of Public Health, University of Liverpool, Medical Officer of Health of the City and Port of Liverpool. Edinburgh: E. & S. Livingstone. 1904. 8vo. Pp. xvi + 724.

THIS work, which still bears Husband's name, has undergone a remarkable evolution in recent editions, and particularly in the seventh edition, which now lies before us.

In the section on Forensic Medicine, the chapter on blood-stains has been re-written, close attention being given to the biological tests by which different kinds of mammalian blood may be distinguished from each other. Our fellow-citizen,

Dr. E. J. McWeeney, is quoted (at page 114) as an authority on "blood relationships" because of his paper in the ninth volume of *The Journal of State Medicine*.

The section on Toxicology has been enriched by articles on putrefactive alkaloids, leucomains, and food-poisoning, which are entirely new and are published for the first time in the present edition. These important subjects are discussed briefly, but clearly. To food-poisoning (bromatotoxismus) a special chapter has been devoted.

The third section, on "Public Health," has evidently been carefully revised by Dr. Hope, whose official position as Medical Officer of Health for the City and Port of Liverpool justifies him in speaking with authority on all matters relating to public health.

Remembering the purport of Dr. Hope's evidence in the Injunction Case of the Clonskeagh Isolation and Small-pox Hospital, heard last year in Dublin, we are not a little amused to read (within quotation marks, no doubt), at page 627—"There is no contagion so strong and sure as that of small-pox—none that operates at so great a distance." Furthermore, at page 658, the authors say:—"In view of the frequently demonstrated liability of small-pox hospitals to disseminate that disease to neighbouring communities, and in order to lessen the risk of such occurrence, the Board" [i.e., the Local Government Board for England] "require the following conditions to be complied with in the case of small-pox hospitals provided by means of loans sanctioned by them:—

"1st. The site must not have within a quarter of a mile of it either a hospital, whether for infectious diseases or not, or a workhouse, asylum, or any similar establishment, or a population of as many as 200 persons.

"2nd. The site must not have within half a mile of it a population of as many as 600 persons, whether in one or more institutions, or in dwelling-houses.

"3rd. Even where the above conditions are fulfilled a hospital must not be used at one and the same time for the reception of cases of small-pox and of any other class of disease."

These three conditions are printed in italics to emphasise **them**, and the authors go on to say—"Some circumstances in connection with the isolation of cases of small-pox call for observation. *Site*.—The site of the hospital is an important matter. This should be *away* from dwellings, highways, public foot-paths, and places of public resort, and it should be altogether independent in its administration of the hospital for other forms of infectious diseases. These requirements make the selection of a site difficult, more especially as a large area of vacant land is necessary around it, approximately with a radius of 400 yards or upwards. It must be remembered also that means must be taken to prevent this land from being encroached upon by buildings or dwellings in the future."

This is all pretty strong and sounds unnecessary unless we believe that the small-pox virus is capable of being air borne. We suppose it was Dr. Hope who added the following paragraph to those we have quoted :—"It is unlikely that small-pox can be conveyed long distances, say, a quarter of a mile to a mile, by aërial convection, and most cases of recent years, originally supposed to have been so caused by hospitals, have, upon investigation, proved to be due to direct or indirect contact with infected persons or things" (page 660).

If this is Dr. Hope's deliberate opinion, why does he quote without questioning the regulations of the Local Government Board? and why is he careful to state that, in reference to his own small-pox hospital at Fazakerley, Liverpool, "the administrative block is at some little distance from the wards, but the entire establishment is wholly independent of any other institution"?

Every one of the three conditions insisted on by the Local Government Board for England is violated in the Clonskeagh Isolation Hospital.

In the section on Meteorology, we notice that the old myth of the Gulf-Stream is retained in the description "a great shallow river in the ocean," to which the mildness of the climate of "Britain" is attributed solely. It is rather an exaggeration to say, as at page 591, that "it is almost always raining on the west coast of Ireland and Britain." The average annual rainfall in Dublin also is not 30, but 28, inches (page 592). Why is the ignorant spelling "syphon" for

"siphon" adopted at pages 568 and 569? Alas! for the abolition of Greek as a compulsory subject in the educational training of the physician.

For the work at large and its setting we have nothing but praise.

Modern Bullet. Wounds and Modern Treatment. By MAJOR F. SMITH, D.S.O., Royal Army Medical Corps. Pp. 99. London: J. & A. Churchill. 1903.

THIS little book, which forms part of the Alexander Essay for 1903, is written with special regard to long bones and joints, field appliances, and first-aid. It embodies the experiences gained in the treatment of these injuries in the recent war. The conclusions arrived at by the author are simply an endorsement of those of Mr. George Makins in his "Surgical Experiences in South Africa." The book is nicely written and readable, but adds nothing to what will be found in the chapter devoted to these subjects in the work above referred to. The remarks at the end on first-aid we can strongly commend to the study of the authorities.

The American Journal of Orthopædic Surgery.

WE have received the first number of this Journal, which is to be published quarterly by the American Orthopædic Association. It is to replace the Transactions of the Association—Volume I. of the Journal being Volume XVI. of the Transactions. The present number contains, amongst others, some excellent papers on "The Correction of Deformity at the Hip, the Result of Disease;" "Subtrochanteric Osteotomy in Adults, Adolescents, and in Young Children;" "The Surgical Pathology of Genu Valgum and Genu Varum;" "The Occurrence of Painful Affections of the Feet among Trained Nurses;" and "The Importance of Supplementing Tissue Transplantation in the Treatment of Paralytic Talipes and by other Procedures Designed to Assure Stability."

An excellent feature of the Journal is an addendum of some 26 pages, including no less than 72 abstracts on various orthopædic subjects of interest, taken from British, Continental

and American journals. The departure of publishing the Transactions in the form of a quarterly journal will be welcomed if only for the reader's convenience.

We can recommend the Journal not only to the orthopædic specialist, but also to the general surgeon, who is frequently compelled to take charge of these interesting and often troublesome and difficult cases to treat.

The Refraction of the Eye and the Anomalies of the Ocular Muscles. By KENNETH CAMPBELL, M.B., F.R.C.S. London: Baillière, Tindall & Cox. 1903. Demy 8vo. Pp. viii + 214, and 107 Illustrations.

THE author, in his preface, says that he has endeavoured to carry out the principle laid down in the thesis of Professor Tait, that "true science is itself simple, and should be explained in as simple and definite language as possible."

We applaud the author's endeavour, but fear that the opprobrium of medical writing in general—viz., want of a literary gift and imperfect knowledge of the English language—to some extent prevents him from realising his ideal.

"Parts of it are excellent," as the curate said of the bishop's egg; and for the most part his descriptions are intelligible, but in places his simple and definite language "becomes indefinite enough to puzzle any ordinary student." For instance, take the explanation of the diagram on page 178. Here both the drawing and the text combine to mystify. On the next page he asks the student to note the reflection of the flame *falling* on the front of the cornea of the squinting eye; when he really means the reflection of the flame *formed by* the anterior surface of the cornea.

Even in the appendix, where he gives the regulations for admission into the services, he tries to simplify the official regulations by expressing them in his own language: "The vision of each eye must be not less than $\frac{6}{36}$ without glasses, provided that with his correction the vision of one eye can be brought up to $\frac{6}{6}$ and $\frac{6}{12}$ with the other." The latter part of this sentence is, of course, not English.

Nevertheless, to those requiring a practical book on the refraction of the eye, &c., the one before us will be found

most valuable, and the abundant illustrations serve to simplify the understanding of the text.

Elements of Surgical Diagnosis. By A. PEARCE GOULD, M.S. Lond., F.R.C.S. Eng.; Surgeon to the Middlesex Hospital; Member of the Council of the Royal College of Surgeons of England, and of the Examining Board for England; Member of the Senate of the University of London. Third Edition, Revised and Enlarged. Cassell & Co. 1903. Pp. 607.

ON comparing the present edition with that published ten years ago it becomes at once evident that considerable changes and improvements have been effected in the revision of this little manual. New sections are added on the diagnosis of the intracranial complications of middle-ear diseases, and new chapters on the diagnosis of abdominal tumours, and of certain acute abdominal diseases, conditions which have sprung into such vast importance within recent years. As a manual for students in the wards its excellence could be increased by the inclusion of a short chapter on the chemical and microscopical examination of the secretions, excretions, and exudates.

We strongly recommend the careful study of this little manual to every student of surgery.

Anæsthesia in Dental Surgery. By THOMAS D. LUKE, M.B., F.R.C.S.E. London: Rebman, Limited. 1903.

THE first thought likely to flash across the mind of one reviewing this work would be—whether there was need for it with such excellent manuals already in the field as Hewitt's and others; but a closer study of its scope and contents proves that it is *sui generis* and a success. The book is written in a less than technical vein, and yet is hardly what might be termed popular in style.

The author has proffered material which is comprehensive, readily grasped, pithy and up-to-date. There lies within these pages most, if not all, of what a dentist or dental anæsthetist need know of anæsthesia; the summing up of the relative advantages and disadvantages of the various

anæsthetics in use in dentistry is good, while we readily concur in nearly all the conclusions arrived at.

As we have already stated, the book pleases us well, and is to be recommended to the notice of all interested in the subject, whether students or qualified practitioners.

Essay on the Irregularities of the Teeth. By J. SIM WALLACE, D.Sc., M.D., L.D.S., &c. London: Dental Manufacturing Co., Ltd. 1904.

SOME time since we had occasion to review a *brochure* by the same author upon the causation of dental caries. A theory was then enunciated by him which appeared to be reasonable. In the present work hypotheses are here, there, and everywhere.

Irregularity dental is now so important an item in the daily practice of the dentist that any light brought to bear upon its causation and remedy will be eagerly grasped at by those whose province it is to remedy such defects, and hence a study of this book was looked forward to with some interest. Perhaps some little disappointment has been the result of such an inquiry, so eminently *theoretical* seems the whole matter it contains; the writer—may we with respect say so—puts forth his own pet suggestions and ideas to explain many of the commoner forms of irregular mouths, and often with rather severe criticisms of the opinions of others. An all-pervading idea of the writer's seems to be, that the tongue—according as it be small or ample—influences unfavourably or favourably the position and regularity of the various teeth. He asserts that abnormalities are not *inherited*—a contention which a very great number of dentists would hardly allow.

Insufficient mastication is cited again as a cause (with more correctness, we believe) leading, as it may, to lessened use, and, therefore, probable slight atrophy of the facial hard and soft parts.

At times, as has been stated, Mr. Wallace is rather severe upon the theories of others. Witness his caustic criticism on p. 65, *re* causation of superior protrusion.

The book is divided into seventeen chapters of some 150 pages, plus an introduction and appendices, and while some

useful advice, as to diet, &c.—e.g., pp. 107, 111—is given in places, on the whole its tenour to us appears rather dogmatic, and not generous, also failing always to convince.

The work is well turned out by the publishers, and is of convenient size and excellent print.

Natural Physical Remedies : Light, Heat, Electricity and Exercise in the Treatment of Disease. By H. H. HULBERT, B.A., M.R.C.S., L.R.C.P. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. [No date.]

THIS book deals chiefly with the modern applications of electricity, heat, light, X-rays, &c. It contains a good deal of information, much of which is interesting; but it is crudely presented, and the reader must be prepared to “boil it down” for himself. The Dowsing treatment is freely advertised.

Zur Frage der Heilbarkeit des Carcinoms. Von DR. R. LOMER, Hamburg (Sonderdruck aus “Zeitschrift für Geburtshilfe und Gynäkologie,” Band L. Heft 2). Pp. 80.

CASES of cancer are not infrequently seen in which, after an incomplete removal, the growth does not recur—or, if it does relapse, after one or more secondary and still incomplete removals, it disappears.

“How is this possible? If we could answer this question precisely, then we should have made a great step towards the solution of the cancer question.”

In the first part of his paper Dr. Lomer quotes a large number of authorities in support of the statement that a further development of the growth does not necessarily take place from portions left behind in the operation, but that under certain circumstances pieces of carcinomatous tissue left behind can be disposed of by the body.

In the second part the author adduces evidence to show that fever exerts a very unfavourable influence on the growth of carcinomatous tissue. Phthisis appears to have an antagonistic influence on the growth of cancer. The occurrence of erysipelas, either spontaneous or by experimental inoculation, and other febrile conditions have all been seen

to retard or prevent the growth of cancerous tumours. This may be due not only to the elevated temperature but to the alteration of the blood; and in accordance with this severe hæmorrhages have also been seen to be followed by beneficial effects in cancerous subjects.

Williams and others have supposed that anything that depresses the vital forces, as advanced phthisis or constitutional syphilis, tends to prevent the development of cancer, and Lomer suggests that a similar depression, produced acutely, as by a prolonged and serious operation, may have a similar effect.

In this connection it is interesting to notice that many substances which cause a profound change in the blood have been employed with more or less success against cancer. Arsenic, turpentine, cantharides, chlorate of potassium are among these bodies. Experiments are in progress with a hæmatolytic serum which appear to promise something. Since young persons so rarely suffer from carcinoma, it may be that in their epithelium some substance exists which hinders the abnormal growth of this tissue, so that from their epithelium a serum might be got which would check the irregular growth in cancerous subjects. Some experiments with such a serum are recorded, and the results were good.

In the treatment, then, of uterine cancer it is recommended to apply the hot iron freely to all parts which cannot be removed; to make warm applications to the part; to treat the patient with arsenic or potassium chlorate; to employ vaginal injections of the chlorate, and to employ fever-causing injections.

The author concludes this part of his work by quoting the following words of Petersen:—"In the present condition of our knowledge it is at least as reasonable to believe in the possibility of an anti-cell serum for carcinoma as in the possibility of an anti-parasite serum"—"*Also suchen wir.*"

The third part gives a record of cases.

The following are a number of points which are under investigation by the author in conjunction with Dr. Pröscher:—

1. The action of epithelium serum and of human hæmatolytic serum on cancer.

2. The occurrence of leucocytosis in carcinoma, particularly whether this takes place independently of ulceration.

3. The reaction of carcinomatous patients to soluble bacterial toxins (tuberculin, staphylotoxin).

4. The cause of the slight disposition of carcinomatous patients to contract infectious diseases, and whether this depends on a histogenetic, bactericidal, or antitoxic immunity.

5. Whether in the blood of carcinomatous subjects there circulate certain toxic substances which cause the cachexia (observations on isotoxins, hæmatolytic and agglutinating substances as contrasted with normal human blood).

6. The treatment of carcinoma with organic and inorganic blood poisons (potassium chlorate, arsenic, pyridin, phenylen-diamin).

7. On the resistance outside the vessels of the red corpuscles of carcinomatous patients to different blood poisons.

This paper is written with much enthusiasm, and in a vigorous and highly readable style. It is, of course, largely theoretical, but contains much that is suggestive, and it must be looked on as a valuable contribution to cancer literature.

University of Pennsylvania. Contributions from the William Pepper Laboratory of Clinical Medicine (Reprints). No. 3. Philadelphia. 1902.

THIS volume contains twenty-two papers, reprinted from various journals, but all recording the results of work done in the William Pepper Laboratory. The papers deal with a very wide range of subjects, and are all of great interest. The collection evidences in the strongest way the great vitality of the Laboratory and the important part which it plays in the advancement of medical knowledge.

The earlier papers are on neurological subjects, and many of them are from the pen of Dr. William G. Spiller. The first records a case of cervical and bulbar tabes with autopsy. Such cases are rare, and records of the *post-mortem* appearances are rarer still.

The second paper, also by Dr. Spiller, gives an account of

a case of complete absence of the visual system in an adult. The patient reached the age of twenty-two years, but at the time of death presented the appearance of a child of twelve. He was an idiot, could not speak, and presented no signs of puberty. There were no eyeballs, optic nerves, chiasma or optic tracts. The optic foramina did not exist. From an examination of the brain the author draws the following conclusions :—

“ 1. The chief ‘primary’ optic centre is the external geniculate body.

“ 2. The pulvinar of the optic thalamus is also an important ‘primary’ optic centre.

“ 3. The anterior colliculus of the quadrigeminal body in man has an unimportant relation to vision.

“ 4. The hypothalamic body, the habenula, the internal geniculate body probably are not part of the visual system.

“ 5. The cortex of the calcarine fissure may contain nearly the normal number of cell bodies, even though the visual system may be undeveloped.

“ 6. The nerves to the ocular muscles and their nuclei may be developed, even though the visual system is absent.

“ 7. Congenital spastic paraplegia may be the result of deficient formation, as regards number or size, of the neurones of the central motor system, even though such a deficiency may be difficult to detect by the microscope.”

In a case of fracture of the tenth thoracic vertebra, with complete compression of the spinal cord, Dr. Spiller found that tactile and painful sensation was lost up to a horizontal line passing through the umbilicus. He, therefore, confirms Head in placing the umbilicus between the ninth and tenth thoracic sensory areas. On microscopic examination it was found in this case that there were considerable morbid changes in the lumbar and sacral regions of the cord. During life the Babinski reflex and the knee-jerk were absent. From a study of the case it is concluded “ that the Babinski reflex may be absent in cases of lesion of the lumbar and sacral regions of the cord, though the clinical symptoms may indicate merely that the cord is compressed above the lumbar region. The Babinski reflex in such cases may possibly be a valuable sign of disorganisation of the lumbar and sacral

regions. That, while loss of the patellar reflexes may occur from transverse lesions of the cord above the lumbar region, the cause of this loss in a certain number of cases is to be found in lesions of the area through which the reflex arc passes."

Dr. Spiller also records an interesting case of primary degeneration of the pyramidal tracts, and two cases of partial internal hydrocephalus from closure of the internal inter-ventricular passage; and in conjunction with Dr. C. K. Mills, a rare case of external spinal pachy-meningitis implicating the entire ventral surface of the spinal *dura mater*.

In a long and important paper Drs. Spiller and Frazier propose the division of the sensory root of the trigeminus instead of extirpation of the Gasserian ganglion for the relief of tic douloureux, and give a report of one case so treated. The operation is comparatively easy and simple and much less dangerous than the removal of the ganglion. The paper is full of interesting and suggestive matter.

Passing over some other papers on neurological subjects we come to a series of works on metabolism. Dr. Edsall writes on creatinin excretion, and in a second paper examines the benzoyl esters of the urine in diabetes mellitus, and the clinical significance of an excess of glycuronic acid. He has found glycuronic compounds present in excess in four out of eight cases of diabetes, five out of six cases of typhoid fever, in a number of cases of general sepsis, in severe tonsillitis, and in several other infectious conditions. He thinks that these compounds are evidence of an intoxication and of the efforts of the organism to overcome this intoxication by forming out of the poisonous substance some innocent compound which is eliminated.

Dr. Miller contributes a paper on the specific gravity of the urine and nitrogen elimination in pregnancy.

Drs. Frazier and Holloway give the results of an elaborate research in the post-operative changes in the blood.

Another blood-study, on the granular degeneration of the erythrocyte, is by Drs. Stengel, White and Pepper.

Among papers on miscellaneous subjects we find one on myositis fibrosa, by Dr. Biggs; on sarcoma of the large intestine, by Drs. Jopson and White; on carcinoma of the eyelids with secondary involvement of the eyeball, by Dra.

Posey and Shumway; on papilloma of the caruncle, by the same authors, and on the surgical treatment of sterility, due to obstruction of the epididymis, by Drs. Martin, Carnett, Levi and Pennington. This last paper, which is experimental as well as clinical, includes a valuable microscopical study of the human spermatozoa. The authors find that in sterile marriages the fault lies with the husband in at least from 10 to 15 per cent. of the cases, and probably in a still larger percentage; that though absence of motile spermatozoa is a proof of sterility, their presence does not necessarily demonstrate that the semen is fertile; that prolongation of motility is a better index of fertility than the mere fact of motility; that although the spermatozoa conform to a general type they present considerable differences even in the same individual; and that while passing through the epididymis they undergo important developmental changes.

"The commonest local cause of sterility in the male is obliterating bilateral epididymitis of urethral origin. Bilateral epididymitis is comparatively rare. Permanent obliteration of the tube of the epididymis is its exceptional rather than its usual termination, and is most effectually avoided by prolonged treatment. When the obliteration persists it is in the tail of the epididymis. Azoö spermia resulting from obliteration in the tail of the epididymis can be easily and safely overcome by forming an anastomosis between the head or body of the epididymis and the vas. Ejaculations following this anastomosis swarm with motile spermatozoa. Whether these be fertile, and whether the vaso-epididymal anastomosis will persist, can be determined only by prolonged observation."

The Lymphatics: General Anatomy of the Lymphatics. By G. DELAMERE. *Special Study of the Lymphatics in Different Parts of the Body.* By P. POIRIER and B. CUNÉO. Authorised English Edition. Translated and Edited by CECIL H. LEAF. With 117 Illustrations and Diagrams. Westminster: Archibald Constable & Co. 1903. Pp. 301.

THIS handsome volume is a section of the great treatise on Human Anatomy which is now appearing in France under

the editorship of P. Poirier and A. Charpy. It is divided into two parts: The first, by G. Delamere (whose correct name is, we believe, Delamare), is on the general anatomy of the lymphatic system; and the second, on the special arrangement of the lymphatic vessels and glands in the different parts of the body, is by Poirier and Cunéo. The work professes to be—and is what it professes—"not simply a general review, a work of compilation, but is a record of opinions which have been formed as a result of personal researches. It shows the state of science of to-day, and indicates the lines on which the work must be conducted in the future."

A new method of injecting the lymphatics has been largely employed in these researches, and is said to have great advantages over the older method of mercurial injection. This is known as the method of Gerota. In it the injection is made of Prussian blue dissolved or suspended in turpentine and ether. The fluid is injected by puncture. The results, if we may judge from the drawings, are very beautiful.

There are few subjects in general anatomy which have given rise to more discussion and difference of opinion than the origin of the lymphatic vessels, their relation to the blood vessels, and the structure of the lymphatic glands. On all these matters the work of Delamere gives us much information. It is shown that lymph cannot be looked on as the same as blood serum or plasma. It must not be looked on as "a simple product of filtration, but rather as a secretion, the genuine result of cellular activity." Its chemical constitution is different, its freezing point is lower, and many circumstances which alter the composition of one fluid leave the other unaffected.

As regards the origin of the lymphatics, the existence of open mouths either into juice canals or into the meshes of the connective tissues is altogether denied, and it is maintained that in the adult, as in the foetus, the lymphatic capillaries terminate by absolutely closed *culs-de-sac*. A communication of open mouths with the serous cavities is also denied. The shape of these *culs-de-sac* is variable. They may be ampullary, club-shaped, conical, digitiform, or ring-shaped. They are lined by a continuous endothelium, through which, however, cellular migrations and osmotic exchanges

readily take place, so that the lymphatics can fulfil their function as drains. The researches of Renaut would seem to show that they exert this function selectively, since he finds that they contain a fluid consisting only of water and crystalloids, and that it is only the lymphatics with valves which contain leucocytes and albuminoids.

An interesting account is given of the development of the lymphatics, which is compared by Ranvier with that of the glands. "The lymphatic system is, in his opinion, an immense gland which originates from the veins, into which it throws the product of its secretion—the lymph."

A good description is given of the different varieties of leucocytes which occur in the lymph, and of their staining and other properties. Although sometimes certain varieties of white cells are phagocytic to a certain microbe and not to others, "it cannot be supposed that as a general rule each type of leucocyte possesses a special chemiotaxis. Granted this fact, and granted that the same leucocyte, whether neutrophile or eosinophile, is attracted by the most different kinds of microbes, it may be seen that even for pure infections, the qualitative study of leucocytosis is of little use in aiding us in our clinical diagnosis."

In the second part of the work the special anatomy of the lymphatics is described, the position of the different glands, and the sources from which they draw their lymph, and the arrangement of the lymphatic vessels. The great practical importance of a knowledge of this part of anatomy is now universally recognised. Nowhere will a better guide to it be found than in this book.

The translation is apparently well done, the drawings are excellent, and the work is well brought out. We have, however, one serious fault to find—namely, the want of an index.

Nouvelles Recherches sur les Rapports Anatomiques des Neurones. Par le DR. HERMANN JORIS. Bruxelles: Hayez. 1903. Pp. 126.

THIS able essay is published by the Belgian Royal Academy of Medicine, and has been awarded a medal of the value of 800 francs. The work is divided into three parts. The

first is historical, and is sub-divided into two chapters; of these the first is devoted to a discussion of the views that have been held on the morphology of the nerve cell. The theory of the diffuse nervous network held by Gerlach as the result of his method of staining with gold chloride; the more recent neuron theory of His, Cajal, and many other anatomists; the fibrillar theory, which goes back to 1860, when it was stated by Lionel Beale, and has again been brought forward by Apathy, Bethe and others; and, finally, some other theories, such as that of Frommann and Grandry, who maintain a transverse striation of the protoplasm and deny a fibrillar structure, the spongioplasm and conducting hyaloplasm of Leydig, Montgomery and Nansen, the trabecular structure of Van Gehuchten, the rods or granules of Van Lenhossek, the neurosomes of Held, and the intracellular canals of Holmgren and Adamkewicz, are all described in a series of sections.

The second chapter treats of the biology of the nerve cell, and in different sections its importance as a genetic centre, as a trophic centre, and as a functional centre is critically examined.

The second part of the essay is on microscopical technique, and describes the most important of the methods which have been employed for the study of the minute anatomy of the nervous elements.

The third part gives the personal researches of the author on the histology of the nerve cell. In four chapters he describes—(1) the external morphology of the neuron; (2) the histology or internal structure of the neuron, its chromatic substance, conducting fibrils, cellular prolongations, and axis cylinder; (3) the connections between the neurons in the nerve centres and in the peripheral ramifications; and (4) the direct anastomosis of nerve cells.

The following are the conclusions at which the author arrives:—In both vertebrates and invertebrates the nervous fibrils are independent anatomical elements. They form closed circuits, passing without break through the nerve cells, and forming loops or networks at the periphery. The fibrils, which thus traverse only the cell body, may run from a protoplasmic process into the axis cylinder process, or from one protoplasmic process into another. In the latter case a

fibril may not enter the cell body at all, but pass from one process to another round a bifurcation. In both axons and dendrons the fibrils are continuous, isolable and independent, and run more or less parallel to one another. The nervous fibrils are continuous in the centres, where they form extracellular networks. They are continuous also at the periphery, where a fibril can be followed separately into the peripheral networks and interlacements. The extracellular network in the grey matter and the peripheral plexus unite the neurons by continuity, but these connections are not, properly speaking, anastomoses. They resemble rather the intracellular threads by which the epidermic cells are as it were stitched together. The protoplasm of each neuron does not fuse with that of its neighbours, but the neurons are connected only by the fibrils, which after traversing one cell enter another. In some parts of the nervous system, however, a true cellular anastomosis does exist.

These conclusions, so different from those founded on Golgi's method, and returning in many particulars to the old views of Beale and Max Schultze, tend to make us endorse the statement of the author—" *En matière de science, la vérité n'est jamais que provisoire et sujette à varier ;*" and, while admitting the great merits of his essay to recognise the truth of the motto appended to it—" *Ce n'est rien au prix de ce qui nous reste à connaître.*"

The essay is illustrated by seven beautifully executed folded plates, containing many microphotographs and drawings, of which many are printed in colours.

A very copious bibliography is appended, arranged alphabetically, under the authors' names, giving references to 463 separate works.

A Pocket Dictionary of Hygiene. By C. T. KINGZETT, F.I.C., and D. HOMFRAY, B.Sc. Second Edition. London: Baillière, Tindall & Cox. 1904. Pp. 112.

A GREAT deal of useful and accurate information is gathered into a small compass, and by the dictionary arrangement and plenty of cross references any desired item can easily be found. As might be expected from the authors the second

edition is well up to date ; and even if the "Sanitas" preparations receive a good deal of praise, it is only what they deserve. Some peculiarities of nomenclature may be noted. Phthisis is the heading under which Pulmonary Tuberculosis appears ; yet when the reader looks out Protoplasm he is referred to Bioplasm. The rash in scarlatina is said to usually appear "on the third or fourth day ;" this is certainly post-dating. In the article on thermometers the freezing and boiling points on the three scales are given, but the normal temperature of the human body is not given. On page 16 there is a very misleading comparison drawn between the building up of bioplasm and phagocytosis.

Essays on Rural Hygiene. By GEORGE VIVIAN POORE, M.D., F.R.C.P. ; Commander of the Dannebrog ; Emeritus Professor of Medicine and Clinical Medicine, University College, London ; Consulting Physician to University College Hospital, &c. Third Edition. London : New York, and Bombay : Longmans, Green & Co. 1903. 8vo. Pp. 426.

THERE is a delightful freshness and originality about Dr. Vivian Poore's writings. These characteristics are notably present in his charming "Essays on Rural Hygiene," which has reached a third edition within ten years.

The principles of sanitation which the author advocates are well expressed in the following paragraph from his preface :—

"It is evident that the elaborate methods of sanitation which are necessary in towns are too expensive and otherwise unsuited for the rural householder, who is dependent for his living upon the productions of the soil, and who must be taught to return all refuse matter to the soil, with a view to increase its fertility."

Tangible results of his primeval system of disposal of refuse are shown in the frontispiece of the volume. The picture represents a magnificent assortment of flowers, fruits, and vegetables—the produce of a garden of $1\frac{1}{4}$ acres at Andover, which has been manured with the refuse of one hundred persons for some years. The excremental matter is laid in

a furrow ten or twelve feet in length, made in the ground with a spade. Directly it is deposited in the furrow, it is lightly covered and there is an end for ever of any offence or of any danger. The first crop taken off the land is always a succulent green crop of the cabbage tribe, and the plants are dibbled in on the third day after the deposit. No other crops except cabbages seem to flourish in the fresh material, but the cabbages may be followed by potatoes, these by celery (planted between the rows), the celery by peas or beans, and these again by parsnips or carrots, without any fresh manuring, and with a most abundant yield. There is no doubt that this excremental refuse confers a fertility upon the soil which is not exhausted for years. Not only vegetables, but all the ordinary garden fruits are produced in high perfection. The garden, in which Dr. Poore has been experimenting since 1882, is now well stocked with fruit trees of all kinds. The sales of vegetables and fruits yielded £91 in 1900, and nearly £90 in 1901. Late frosts in 1902 destroyed the fruit crop and caused the receipts to fall to £58. No inconsiderable part of this garden of 1½ acre is given up to flower borders, which give no pecuniary return.

Dr. Poore's book is full of useful hints on sanitation. To give one example—he writes (at page 335)—“In times of infective disease, the washing copper, intelligently used, is the best antiseptic, and the cheapest, because in this way the first stage of the laundry work is accomplished, and there is no bill for poisonous chemicals. Infected clothing should not be mixed with salts of mercury or (with) carbolic acid, because the albuminous matter (blood, &c.) is thereby coagulated, and the proper cleansing of the clothes in the laundry is interfered with. Neither should linen be plunged into *boiling* water for the same reason, but, as advised, it should be allowed to soak for some hours in cold water and soda, whereby the albuminous stains are dissolved, and then be gradually boiled.”

The reader will gather from what has gone before that our author is original in his views on sanitation. This he frankly admits in the opening paragraph of the introductory chapter. He “will attempt to show that many of the hygienic arrangements which have been in vogue for some years are largely based upon erroneous principles; and are, therefore, bad from

many points of view, scientific, political, moral, economic, and hygienic."

Dr. Poore is no advocate for cremation. In a chapter on "Burial," he sums up in favour of *scientific* burial as follows :— "As compared with cremation, inhumation is cheaper, simpler, and quicker. It is *productive* and not *destructive*, it is indirectly a cause of freshening the air instead of fouling it, and provides a lovely spot for the enjoyment of the living." Perhaps, we may not go so far with him as all this, but he makes a first-rate case for burial. The conditions he lays down are :— (1) That the body shall be placed in the "living earth" and as near the surface as is practicable ; (2) that ground used for burial must be made to produce, and the planting of a tree or a shrub over the deceased should be the final act of the funereal rite ; and lastly (3) that coffins should be used merely for the transport of the body to the grave, being as a final act withdrawn.

The work closes with a graphic account of the reclamation of the sand-wastes of Gascony and the story of Brémontier. That great French engineer planted those sand-dunes with the *Pinus maritima* in the year 1789, and so created the valuable pine-forests of the Landes and the Gironde—winning for France, by his skill and foresight, a productive tract which extends to hundreds of thousands of acres.

The Guide to South Africa. For the use of Tourists, Sportsmen, Invalids, and Settlers. With Coloured Maps, Plans and Diagrams. Edited annually by A. SAMLER BROWN and G. GORDON BROWN, for the Union-Castle Mail Steamship Company, Ltd., 3 and 4 Fenchurch-street, London, E.C. (1903-1904 Edition.) Eleventh Edition. London : Sampson Low, Marston & Co. Cape Town, Port Elizabeth, and Johannesburg : J. C. Juta & Co. 1904. 8vo. Pp. 474.

WE have so often drawn attention to the features of this admirable work that nothing more is needed than to chronicle the publication of the eleventh yearly edition of "Browns' Guide to South Africa."

To show how well the work has been brought up to date

we quote the last paragraph of the section devoted to the "History of the Transvaal" (page 287):—

"The past year has been a peaceful period of reconstruction, marked by a vast increase in trade. The mining industry, although advancing steadily from month to month, has been greatly hampered by the want of native labour, and the output of the mines is still far below what it was before the war. This question of native labour is the burning one of the hour, and is dealt with at some length elsewhere."

The Native Labour Question has been prominent in South Africa since the abolition of slavery in 1834. A study of the ably written article on the subject, to be found at pages 135 to 140B of the "Guide," will interest and instruct.

The book costs only half-a-crown, and should be in the hands of everyone interested—and who of us is not?—in the future of South Africa.

Diseases of Women. By A. L. GALABIN, M.A., M.D., F.R.C.P.; late Fellow of Trinity College, Cambridge; Consulting Obstetrical Physician to Guy's Hospital; late President of the Obstetrical Society of London, &c., &c. Sixth Edition, much enlarged. With 284 Illustrations. London: J. & A. Churchill. 1903. Pp. viii and 695.

WE are very glad to be able to welcome a new edition of Dr. Galabin's work on Gynæcology. Although his present book is not so well known as his *Manual of Midwifery*, it still has reached a very considerable popularity, as is shown by the fact that it has reached its sixth edition. In the present edition the book has been greatly enlarged—"to twice its former size." Additional chapters have been added, as well as 149 new figures, including twenty-three micro-photographs.

Amongst the new sections we specially notice one on atmocausis. The boiler originally devised by Sneguirew is figured, and also the delivery tube of Pincus. It would have been, perhaps, better to have also shown a drawing of Pincus' boiler, as the original apparatus of Sneguirew is not now used. Dr. Galabin states that it is better to employ an anæsthetic during the performance of atmocausis, but we understand

that this is contrary both to Pincus' advice and to the usual practice. He also states that the "manipulation (*sic*) for protecting the cervix and isthmus appears to be defective," and that the use of a vulcanite canula, tightly applied to the dilated cervix, is preferable. We do not know whether Dr. Galabin has used the fibre cervix protector of Pincus, but it appears that he has not done so, as he apparently considers that the escape of steam from the cervix is the rule, whereas such an occurrence should never take place, and when it does, is an indication for the immediate shutting off of steam.

Dr. Galabin figures a very large number of pessaries which many gynæcologists would consider obsolete. It may be well for the student to know that such an instrument as Zwancke's pessary existed; but whether it is advisable to suggest to him its use is another matter.

Many of the new illustrations are of a very high order of merit, and in particular we may draw attention to the drawings of pathological conditions reproduced from Roberts' book on Gynæcological Pathology. Some of the original drawings, on the other hand, are not good. Particularly is this the case in those which illustrate the introduction of a Hodge pessary, as these all possess one bad and another fatal fault. The bad fault is to be found in the very incorrect anatomical relations, inasmuch as what may be termed the standard fault of English works on gynæcology and midwifery is perpetuated. We refer, of course, to the relation of the buttock to the sacrum. We wonder when English artists will learn that the curve of the sacrum and the curve of the buttock are not concentric. The fatal fault is to be found in the fact that the drawings show the introduction of a Hodge pessary with the uterus still in a position of retroversion. It is true that during the process of introduction of the pessary the uterus, apparently, gracefully rises of its own volition into a position approximating to the normal, but inasmuch as there is some doubt as to whether this process would occur *in corpore vili*, it is, perhaps, not well to lead the student to believe that it will. We have always acted under the belief that it was imperative to replace a retroverted uterus before introducing a Hodge pessary. The presence of this mistake in the drawings is all the more curious inasmuch as the writer distinctly states

that before the pessary is inserted the uterus should be replaced, and that he draws special attention to the inclusion of these new drawings in his preface.

Personally, we do not consider the arrangement adopted by the writer to be a good one, but he will, on the other hand, find many men to approve it. Much uterine, tubal, and intrapelvic disease is secondary to pathological conditions of the vulva and vagina, whereas the reverse sequence is extremely rare. For this reason we consider that in systematically discussing gynæcological diseases it is a mistake to end the book with diseases of the vagina, vulva, and bladder.

Dr. Galabin's book is in many respects an excellent one. We think, however, that the author would have been better advised if at the same time that he introduced many additions and improvements he had rigorously expunged much that is obsolete and unnecessary. The book suffers from its length, while, at the same time, it contains much which might with advantage have been jettisoned.

Manual of Midwifery : for the use of Students and Practitioners.

By W. E. FOTHERGILL, M.A., B.Sc., M.D.; Lecturer in Obstetrics, The Owens College, Manchester, &c., &c. Third Edition. With a double Coloured Plate and 86 Illustrations in the Text. Edinburgh : W. F. Clay. 1903. Pp. xviii + 506.

WE reviewed the second edition of this very interesting manual of midwifery at some length, and as the alterations in, and additions to, it during the preparation of the third edition are not many, we do not know that we have much reason to alter the opinions then expressed. Of the criticisms then made, one alone has apparently produced a modification in the present edition, and Dr. Fothergill has consented to describe the treatment adopted in *ante-partum hæmorrhages* in the Dublin Maternity Hospitals. We fear, however, that the knowledge that the Dublin treatment does not produce the effect that English writers have assigned to it has not brought much conviction to his mind, which, so far as the treatment of accidental hæmorrhage is concerned, is, we fear,

no clearer than when he prepared the second edition of his book. He no longer writes that as soon as accidental hæmorrhage is recognised the membranes should be ruptured, but says instead that "if the classical treatment is chosen, the membranes should be ruptured," and adds that if the hæmorrhage continues, dilatation must follow, then internal version and extraction, and then—is it any wonder—the treatment proper to post-partum hæmorrhage. In the midst of much uncertainty, there is however, one definite direction—"where there is little or no dilatation of the cervix, abdominal section is the proper treatment, and would save many lives if done promptly. We trust Dr. Fothergill will forgive our criticisms. To make some little amends we shall follow them by a suggestion. Will Dr. Fothergill during the course of one evening put all preconceived ideas regarding the correct treatment of placenta prævia and accidental hæmorrhage out of his mind, and will he devote the time thus gained to the tabulation—first, of the statistics of the results of the treatment of these conditions advocated in Edinburgh and London; and, secondly, to a tabulation of the statistics of the Dublin treatment. Let him then compare his tables, and we incline to the belief that in the preparation of his fourth edition he will be able to write clearly and definitely, and give reasons for the faith that is in him.

As we said before, Dr. Fothergill's book is a most instructive and readable manual of Edinburgh treatment, and one which will well repay an attentive perusal.

Essentials of Pelvic Diagnosis: with Illustrative Cases. By E. STANMORE BISHOP, F.R.C.S., England; Hon. Surgeon, Ancoats Hospital, Manchester; Vice-President, British Gynæcological Society, London, &c. And an Appendix on Examination of Blood, &c., by CHARLES F. WELLAND, M.D. (London), M.R.C.P.; Hon. Physician, Ancoats Hospital, Manchester, &c. Bristol: John Wright & Co. 1903. 8vo. Pp. 297.

The book before us consists of three parts. Part I. deals with methods of diagnosis. Part II. deals with "lines of diagnosis," and consists of numbered paragraphs "in which the more

broadly marked and more general dividing symptoms are given in italics, and the whole in considerable detail." We do not quite know to what the word "whole" applies, or why italics should be contrasted with detail. Part III. consists of diagnostic tables, "in which a more comprehensive view may be taken of the entire class, group, or section of pathological conditions to which the case belongs." An appendix is added, in which the methods of examination of the blood are given, as well as the various methods of detecting the presence of tubercular (*sic*) bacilli, and gonococci.

As we understand the preface, the book is an attempt to make more easy the mental process of deduction from effects to cause, and from symptoms to disease. We doubt the value of such attempts in general, and of this attempt in particular. The number of different clinical pictures which can be presented by the large number of pathological conditions with which we are at present acquainted is too great to enable each to be portrayed, and for a similar reason its retention on the mind is impossible. Even supposing that such attempts were proved to be of value, we fear that the book before us would still fail in its object. The appendix is useful and is nicely illustrated.

A Text-Book of Pathology. By ALFRED STENGEL, M.D.; Professor of Clinical Medicine in the University of Pennsylvania, &c. Fourth Edition. Thoroughly Revised. W. B. Saunders & Co. 1903.

It is scarcely needful to do more than notice the appearance of the fourth edition of so well and favourably known a Pathological Text-Book as that of Professor Stengel. We have more than once strongly recommended it, more especially to students, and to those practitioners who desire to keep their clinical work abreast of pathological practice.

The present revised and enlarged edition deserves, however, a special note of commendation since, though the previous revised edition appeared so recently as 1900, it has been very thoroughly and judiciously brought up to date. Naturally, its new material is mostly evidenced in the part dealing with general pathology—where, amid much that is new, we notice

a clearly and carefully written account of Ehrlich's Theory of Immunity. Another distinctive addition is a chapter dealing with pathological methods—an addition which adds much to the book's value as a student's text-book.

Essentially a student's and practitioner's book, in which clinical pathology is steadily kept in view, we think that—despite its many competitors—this fulfils, perhaps more adequately and easily than any other, the functions of a Pathological Text-Book.

A Short Practice of Gynæcology. By HENRY JELLETT, M.D., F.R.C.P.I., &c.; Ex-Assistant Master, Rotunda Hospital; Examiner in Midwifery and Gynæcology, Royal University of Ireland, &c. Second Edition. Revised and Enlarged. London: J. & A. Churchill. 1903.

WE cordially welcome this second, greatly altered, enlarged, and, we think, improved edition of Dr. Jellett's Gynæcology. Popular as was the first edition—not only among students but among practitioners—we have no doubt whatever that in its altered form it will prove still more acceptable. Dr. Jellett is indeed to be congratulated upon having already done much to redeem the Dublin School of Obstetrics and Gynæcology from the reproach of silence in that field of medicine for which its clinical teaching has long been famed, and for which its special institutions afford such unrivalled schools of experience.

A first glance at the book before us revealed what we still regard as a peculiarly meritorious feature—the abundance and excellence of its illustrations. Not only are they so executed as to give pleasure to the eye, but they are so carefully selected as to be of invaluable service from an educational point of view. Well-known works—those, *e.g.*, of Kelly, Cullen, Roberts, and others—are some of the sources, but, what is more important, we have also a large number of quite original drawings which give the book a distinct note of individuality. Specially noteworthy are the original sketches designed to assist the reader in understanding the often complicated operative technique. In a very few cases we would have preferred other sources than those selected.

Thus the diagrams from Wyder, which illustrate endometritis might, we think, be easily improved on ; and Fig. 47, supposed to represent interstitial endometritis, appears to us to show rather one result of such—viz., atrophy of the endometrium.

The teaching of the book is, as Dr. Jellett states, essentially that of the Dublin School—broad and eclectic ; and, we have no doubt wisely, it is here inculcated tersely and dogmatically. A “Short Practice” has no right and no need to deal in doubts or confuse with refinements. The result is that the book yields the more readily what is wanted from it—precise directions as to how to act under various pathological conditions. Amid the plethora of works on Gynæcology it would be difficult to name one which teaches less ambiguously. Before concluding a brief notice, we would wish to note—since it is the function of a critic to criticise—a few points upon which we would like to find the teaching somewhat modified. Dealing with the subject of menstruation, the author, quoting and following Mr. Bland Sutton, teaches that during the menstrual period there is degeneration and shedding of the superficial epithelium with portions of the stroma and of the glandular epithelium. This is certainly not justified by the more recent researches mostly made through the aid of menstrual curettings and uterine extirpations, which seem amply to sustain Gebhard’s contention that “as a matter of fact no destruction of mucosa occurs at any time during menstruation,” or during the succeeding period.

We should have preferred to find some definite mention of ovarian teratomata which present so marked a clinical contrast to the genetically related ovarian dermoids. The latter are—one might almost say invariably—innocent, the former malignant, neoplasms.

Finally, we must congratulate both author and publisher on having shared in producing what is distinctly the most practically useful gynæcological guide with which we are acquainted.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR THORNLEY STOKER, M.D., F.R.C.S.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF PATHOLOGY.

President—HENRY C. EDEL, M.D., F.R.C.P.I.
Secretary—ARTHUR H. WHITE, F.R.C.S.I.

Friday, January 15, 1904.

The PRESIDENT in the Chair.

Horse-shoe Kidneys.

THE PRESIDENT and Dr. TRAVERS SMITH showed tuberculous suprarenal bodies and a horse-shoe kidney from a case of Addison's disease. The former also exhibited a second horse-shoe kidney.

PROFESSOR McWEENEY said out of many hundreds of autopsies which he had made he found but one horse-shoe kidney, which was situated much lower down than usual; in fact, the connecting isthmus lay over the sacro-iliac synchondrosis.

Deformity of Liver.

The PRESIDENT showed a liver with deformity, probably produced by tight lacing. A portion of the right lobe close to the right side of the gall-bladder was turned right over so as to come in contact with the upper surface of the liver.

Paraffin Method of Embedding.

PROFESSOR McWEENEY showed an adaptation of the paraffin method of embedding tissues suitable for class purposes. The sections were cut in chains, floated off in convenient lengths as usual, and taken up on thin sheets of mica, to which they were caused to adhere by capillary attraction. The mica sheets were cut up, and the divisions, each bearing a section, given out to the

class. After removal of the paraffin as usual, the students stained and mounted the sections, which adhered throughout to the mica, and were mounted in balsam along with it. The exhibitor owed his acquaintance with this useful method to his friend Professor Coffey, who had acquired it in Held's laboratory.

Ringworm.

PROFESSOR MCWEENEY showed sections of ringworm hairs prepared by the paraffin method, and adapted by the mica method for distribution to a class. They showed the characters of the several forms of ringworm, especially the microsporon, and their relation to the hair shaft and root sheath. The microsporon spores in the Irish cases he had studied gave notably larger measurements than those usually recorded—4 to 6 mikra, instead of 2 to 3 mikra as generally given. He also showed young microsporon plants grown from single spores on "French proof agar," as well as in epidermic scales. The acladium form of branching and ectospore formation were well seen in the hanging drop cultures. For staining, he had found Heidenhain's iron-hæmatoxyline after formol-vapour fixation most useful. The nuclei of the young mycelium were well seen under high powers. He had it in contemplation to undertake a comparative study of Irish skin-fungi by the methods he now outlined—viz., isolation of individual spores and culture on French proof agar.

Endometritis.

DR. NEVILLE exhibited photographs made by Dr. Wigham of various varieties of endometritis.

Cancer of Ovary.

DR. NEVILLE showed macroscopic and microscopic sections of cancer of the ovary.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—EDWARD H. TAYLOR, M.D., F.R.C.S.I.

Secretary—WILLIAM TAYLOR, M.B., F.R.C.S.I.

Friday, January 29, 1904.

THE PRESIDENT in the Chair.

The Anatomy of the Pelvic Fascia, with special reference to its Surgical Importance.

DR. R. A. STONEY read a paper on this subject. He described a new

method of demonstrating the connections of the visceral pelvic fascia, by hardening the subject in formalin, and then, having made a mesial section of the pelvis, dissected the prostate and bladder out of their fascial envelopes. By means of specimens dissected in this way, and drawings and diagrams made from them, he showed that the visceral layer of pelvic fascia, instead of dividing into three layers, as usually described, really gives off three complete sheaths, two in a downward direction surrounding the prostate and rectum, and one in an upward direction surrounding the bladder; and that each of these is complete in itself, and in no place does one layer of fascia enter into the formation of more than one of these three sheaths. He also pointed out that the visceral layer of pelvic fascia meets the urogenital apparatus at the vesico-prostatic junction, and the alimentary canal at the junction of the rectum and anal canal.

SIR THOMAS MYLES, the PRESIDENT, PROFESSOR FRASER, and PROFESSOR DIXON spoke.

Pawlow's Gastric Fistula Operation.

DR. HAROLD PRINGLE exhibited a dog on which he had performed Pawlow's "gastric fistula" operation. The subject of the operation is to produce a stomach-pouch which is made to open on the surface, while the remainder of the stomach is left to perform its digestive function as usual. The pouch is formed in such a manner as to retain its nervous connections intact. Some lantern slides were shown illustrating the operation, and others giving the results of experiments, which showed that the juice secreted by the stomach-pouch varied in amount and rate of secretion, corresponding with the results already published by Pawlow.

The PRESIDENT and PROFESSOR THOMPSON spoke.

Making of Blood Films.

DR. HENRY M. JOHNSTON gave a demonstration on the making of blood films by a new method. He also showed specimens of films stained and unstained. His apparatus is exceedingly simple, and is already in the hands of a firm of instrument makers. A complete account of this apparatus and method will shortly be published.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—ALFRED J. SMITH, M.B., F.R.C.S.I.

Secretary—T. HENRY WILSON, F.R.C.P.I.

Friday, February 5, 1904.

The PRESIDENT in the Chair.

Exhibits.

THE PRESIDENT showed a uterus removed by panhysterectomy containing a large senile polypus.

DR. E. H. TWEEDY showed two dermoids, one cancerous ovary removed by abdominal section.

Report of the Rotunda Hospital.

The adjourned discussion on Dr. Purefoy's Report of the Rotunda Hospital for the year 1902-03 took place. DRS. TWEEDY, JELLETT, WILSON, FITZGIBBON, FITZGERALD, and the PRESIDENT spoke, and DR. PUREFOY replied.

The Section then adjourned.

THE MEDICAL BOOKS OF A YEAR—1902-1903.

THE "Medical Library and Historical Journal" for October, 1903, gives a "practically complete record of all medical books (exclusive of serial publications of all kinds, including transactions, year books, government reports, periodicals, &c., and graduating theses) published during the year" between October 1, 1902, and October 1, 1903. From these figures it appears that America is answerable for the production of 367 new books; Germany follows with 354; then come France, 288; England, 250; and miscellaneous, 25. The average price per volume was \$1.92. A consideration of the data gathered leads the "Journal" to remark that America leads the world in medical book production, and that half the medical books published are in the English language. Moreover, the average price of books published in English is \$2.64 (America), and \$2.25 (England), as against \$1.46 (Germany) and \$1.39 (France). French and German books are, however, not usually bound, which would to some extent, at least, account for the difference.—*The Medical Book News*, January, 1904.

CORK MEDICAL AND SURGICAL SOCIETY.

President—J. COTTER, M.D., F.R.C.S.I.

Secretary—D. J. O'CONNOR, M.A., M.D., R.U.I.

Wednesday, January 27, 1904.

The PRESIDENT in the Chair.

Intestinal Perforation cured by Operation.

THE PRESIDENT read notes of a case of perforation of the intestine, successfully treated by operation. The patient was a girl, aged 12, suffering from tuberculous peritonitis. On admission to hospital she was greatly emaciated, and suffered from extreme abdominal distension. The day after admission the abdomen was tapped, and a large quantity of pus escaped. Next day the abdomen was opened, and the peritoneal cavity was found full of pus, having a faecal odour, while faeces were seen to be escaping from a small aperture in the transverse colon. The peritoneum was studded all over with tubercles. The aperture in the colon was sutured, and the cavity closed. Healing was slow, owing to the damaged condition of the peritoneum and the emaciated condition of the patient, but was ultimately complete, and the patient's weight increased in nine months from 4 stones to 7 stones 2 lbs.

Tuberculin in Pulmonary Tuberculosis.

DR. P. T. O'SULLIVAN read notes of a case of pulmonary tuberculosis treated by tuberculin. The patient was a young woman, aged 21. The first two injections had no effect, but the reaction to a third injection was very marked, the temperature rising to 106.4° and all the symptoms being aggravated. Only the greatest watchfulness saved the patient's life at this stage. On the other hand the effect of the injection was to cause the entire disappearance of tubercle bacilli from the sputum. No permanent advantage followed the treatment, which, even with the improved serum now being used, is of very doubtful benefit.

Epithelioma Auris.

DR. CORBY showed an external ear which he had removed from a man, aged 60, for epithelioma.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F.R. Met. Soc.

Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, January 30, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending January 30, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 22.4 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, January 30, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000:—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for 4 weeks
	Jan. 9	Jan. 16	Jan. 23	Jan. 30			Jan. 9	Jan. 16	Jan. 23	Jan. 30	
22 Town Districts	27.0	26.5	23.9	22.4	25.0	Lisburn -	13.6	36.4	22.7	18.2	22.7
Armagh -	13.7	-	41.2	20.6	18.9	Londonderry	16.4	22.7	17.6	15.1	18.0
Ballymena	14.4	23.9	19.2	14.4	18.0	Lurgan -	44.3	26.6	22.1	-	23.3
Belfast -	27.6	28.9	20.4	21.7	24.7	Newry -	33.6	33.6	21.0	25.2	28.4
Clonmel -	15.4	20.5	15.4	51.3	25.7	Newtownards	28.6	17.2	17.2	17.2	20.1
Cork -	31.5	19.9	28.1	16.4	24.0	Portadown -	20.7	25.8	15.5	10.3	18.1
Drogheda -	20.4	20.4	20.4	16.3	19.4	Queenstown	19.8	13.2	19.8	46.1	24.7
Dublin - (Reg. Area)	27.8	28.8	26.0	25.6	27.1	Sligo -	9.6	9.6	4.8	19.2	10.8
Dundalk -	28.9	19.9	23.9	8.0	18.9	Tralee -	21.1	10.6	26.4	37.0	23.8
Galway -	46.6	27.2	27.2	42.7	35.9	Waterford -	21.4	15.6	33.1	15.6	21.4
Kilkenny -	9.8	4.9	44.2	9.8	17.2	Wexford -	42.0	28.0	37.4	9.3	29.2
Limerick -	31.4	31.4	31.4	27.3	30.4						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, January 30, 1904, were equal to an annual rate of 1.4 per 1,000—the rates varying from 0.0 in sixteen of the districts to 6.6 in Queenstown. Among the 149 deaths from all causes registered in Belfast are one from measles, 10 from whooping-cough, and one from enteric fever.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, January 30, 1904, amounted to 190—95 boys and 95 girls; and the deaths to 196—103 males and 93 females.

DEATHS.

The deaths registered in the week ended Saturday, January 30th, 1904, represent an annual rate of mortality of 27.0 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the area, the rate was 25.6 per 1,000. During the four weeks ending with Saturday, January 30, 1904, the death-rate averaged 28.0, and was 2.6 under the mean rate for the corresponding portion of the ten years 1894–1903.

There was one death from measles. Influenza caused 3 deaths. Eleven deaths from whooping-cough and one death from enteric fever were registered. In the preceding 4 weeks the deaths from whooping-cough had been 12, 9, 5, and 5 respectively, and the deaths from enteric fever had been 1, 6, 3 and 3 respectively. Diarrhoea caused one death.

Included in the 35 deaths due to tuberculous disease are 4 from tubercular phthisis, 22 from *phthisis*, 4 from tubercular meningitis, one from tabes mesenterica, and 5 from other forms of the disease.

Two deaths were assigned to carcinoma, 2 to sarcoma, and 4 to cancer (*malignant disease*).

Of 18 deaths from diseases of the brain and nervous system,

7 were caused by *convulsions*—all were of children under 5 years old.

There were 30 deaths from diseases of the heart and blood-vessels.

Of 41 deaths attributed to diseases of the respiratory system, 29 were caused by bronchitis, 4 by broncho-pneumonia, and 4 by *pneumonia*. The total (41) is equal to an annual rate of 5.6 per 1,000 of the population of the Dublin Registration Area, the annual average rate for the corresponding week of the preceding 10 years being 6.8 per 1,000.

Seven deaths from accidental violence were registered.

In 10 instances the cause of death was “uncertified,” there having been no medical attendant during the last illness. These cases include the deaths of 7 children under 5 years of age (including 4 infants under one year old) and the deaths of 2 persons aged 60 years and upwards.

Fifty-three of the persons whose deaths were registered during the week ended January 30 were under 5 years of age (30 being infants under one year, of whom 5 were under one month old), and 52 were aged 60 years and upwards, including 21 persons aged 70 and upwards, of whom 3 were octogenarians, and one (a female) was stated to have been aged 90 years.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the “Infectious Diseases (Notification) Act, 1889,” as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended January 30, 1904, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or German Measles	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Group	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	Jan. 9	-	9	-	13	1	-	3	-	2	6	19	-	1	-	54
	Jan. 16	-	5	-	12	1	-	2	-	1	23	18	-	-	-	60
	Jan. 23	-	11	-	20	-	-	2	-	4	18	8	1	-	-	64
	Jan. 30	-	7	1	15	-	-	7	-	1	18	22	-	-	-	71
Rathmines and Rathgar Urban District	Jan. 9	-	-	-	-	-	-	-	-	-	2	1	-	-	-	3
	Jan. 16	-	-	-	2	-	-	-	-	-	1	-	-	-	-	3
	Jan. 23	-	-	-	4	-	-	-	-	-	1	-	-	-	-	5
	Jan. 30	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2
Pembroke Urban District	Jan. 9	-	-	-	-	-	-	1	-	-	1	-	-	-	2	4
	Jan. 16	-	1	-	2	-	-	1	-	-	3	-	-	2	-	9
	Jan. 23	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
	Jan. 30	-	-	-	-	-	-	-	-	1	3	1	-	-	6	11
Blackrock Urban District	Jan. 9	-	-	-	3	-	-	-	-	-	-	-	-	1	-	4
	Jan. 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jan. 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Jan. 30	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
Kingstown Urban District	Jan. 9	-	-	-	1	-	-	1	-	-	1	-	-	-	-	3
	Jan. 16	-	-	-	1	-	-	-	-	-	-	1	-	-	-	2
	Jan. 23	-	-	-	-	-	-	-	-	-	-	1	-	1	-	2
	Jan. 30	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
City of Belfast	Jan. 9	2	-	-	16	-	-	9	-	4	8	11	1	-	-	51
	Jan. 16	2	-	-	13	-	-	2	-	2	6	7	-	-	-	32
	Jan. 23	7	-	-	20	-	-	3	1	4	5	16	1	-	-	57
	Jan. 30	3	-	-	17	-	-	5	1	4	11	9	-	-	-	50

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, January 30, 1904, 7 cases of measles were admitted to hospital, there was one death, 10 patients were discharged convalescent, and 36 patients remained under treatment at its close.

Seventeen cases of scarlet fever were admitted to hospital, 23 cases were discharged, and 101 cases remained under treatment at the close of the week. This number is exclusive of 9 patients still under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Four cases of typhus fever remained under treatment at the close of the week.

Eight cases of diphtheria were admitted to hospital, 6 were

discharged, and 16 cases remained under treatment at the close of the week.

Twelve cases of enteric fever were admitted to hospital, 8 cases were discharged, and 67 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 2 cases of pneumonia were admitted to hospital, 7 patients were discharged, and 14 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, January 30, 1904, in 76 large English towns, including London (in which the rate was 19.5), was equal to an average annual death-rate of 19.4 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 18.4 per 1,000, the rate for Glasgow being 17.8 and for Edinburgh 16.8.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of January, 1904.

Mean Height of Barometer, -	-	-	29.813 inches.
Maximal Height of Barometer (22nd, 9 a.m.), -	30.757	„	
Minimal Height of Barometer (14th, 1 30 a.m.),	28.757	„	
Mean Dry-bulb Temperature, -	-	-	41.9°.
Mean Wet-bulb Temperature, -	-	-	40.1°.
Mean Dew-point Temperature, -	-	-	37.9°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.231	inch.	
Mean Humidity, -	-	-	86.6 per cent.
Highest Temperature in Shade (on 27th),	-	-	54.8°.
Lowest Temperature in Shade (on 16th),	-	-	31.5°.
Lowest Temperature on Grass (Radiation) (31st),	27.8°.		
Mean Amount of Cloud, -	-	-	54.9 per cent.
Rainfall (on 19 days), -	-	-	2.535 inches.
Greatest Daily Rainfall (on 3rd), -	-	-	.550 inch.
General Directions of Wind, -	-	-	S.W., W.

Remarks.

An open, damp and rainy month, with an overwhelming prevalence of S.W. and W. winds, except at the very beginning, when Ireland was still within the “sphere of influence” of the

great continental anticyclone, which caused severe frost in Central Europe up to the 8th inclusive, and again from the 17th to the 29th inclusive. These cold "snaps" were separated by a sudden and extreme rise of temperature on the 13th and 14th, when the thermometer rose to 50° or upwards over France, Belgium, and many parts of Germany. This wave of warmth was brought by the S.W. winds of a vast atmospheric depression, which was central near the Shetlands at 8 a.m. of the 14th, the barometer at that hour reading 28.33 inches at Sumburgh Head. In Dublin the lowest pressure recorded was 28.757 inches about 1 30 a.m. of the day named. As this great disturbance moved away to the eastward, it gradually filled up and was followed by a large anticyclone, in which the barometer rose to 30.757 inches, or exactly two inches higher, in Dublin on the morning of the 22nd. The month was very open in Ireland, Scotland, and Scandinavia. Some sharp frosts were experienced in England—particularly in the Thames Valley and over the south-eastern counties.

The duration of bright sunshine was estimated at 49.75 hours, the daily average being 1.6 hours. The corresponding values for January, 1901, were 64 hours and 2.1 hours; for January, 1902, 54 hours and 1.7 hours; and for January, 1903, 56.5 hours and 1.8 hours.

In Dublin the arithmetical mean temperature (42.6°) was above the average (41.6°) by one degree; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 41.9°. In the thirty-nine years ending with 1903, January was coldest in 1881 (M. T. = 33.2°), and warmest in 1898 (M. T. = 47.8°). In 1902 the M. T. was 43.0°; in 1903 it was 42.1°.

The mean height of the barometer was 29.813 inches, or 0.061 inch below the corrected average value for January—namely, 29.874 inches. The mercury rose to 30.757 inches at 9 a.m. of the 22nd, having fallen to 28.757 inches at 1 30 a.m. of the 14th. The observed range of atmospheric pressure was, therefore, exactly 2 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 41.9°, or 0.5° above the value for January, 1903. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* × .52), the M. T. becomes 42.7°, compared with a thirty years' (1871–1900) average of 41.7°. The arithmetical mean of the maximal and minimal readings was 42.6°, compared with a thirty years' average of 41.6°. On the

27th the thermometer in the screen rose to 54.8° —wind, S.S.W. ; on the 16th the temperature fell to 31.5° —wind, W. by N. The minimum on the grass was 27.8° , on the 31st—wind, W.

The rainfall was 2.535 inches, distributed over 19 days. Of this amount 1.328 inches fell on three consecutive days—the 2nd, 3rd and 4th. The average rainfall for January in the thirty-five years, 1866–1900, inclusive, was 2.230 inches, and the average number of rainy days was 18. The rainfall, therefore, and rainy days were somewhat above the average. The record rainfall for January was in 1895—namely, 5.711 inches on 24 days. In 1876, only .406 inch was measured on but 9 days. In 1902, 1.614 inches fell on 12 days ; in 1903, 3.269 inches on 20 days.

The atmosphere was foggy on the 5th, 11th, 12th, 19th, 21st, 22nd, 23rd, and 30th. High winds were noted on 13 days, reaching the force of a gale on 6 days—the 10th, 13th, 14th, 27th, 28th, and 29th. Snow or sleet fell on the 3rd, 15th, and 16th ; hail on the 3rd, 10th, 13th, 14th, and 15th. Temperature exceeded 50° in the screen on 8 days ; while it fell to 32° in the screen on only 3 nights, compared with 7 nights in 1903 and 1902, 3 nights in 1901, 2 in 1900, 4 in 1899, only 1 night in 1898, 13 nights in 1897, only 3 in 1896, 18 in 1895, and 15 in 1892. The minima on the grass were 32° or less on 11 nights, compared with 9 nights in 1903, 12 nights in 1902, 11 nights in 1901, 13 nights in 1900, 16 in 1899, only 3 in 1898, 21 in 1897, 8 in 1896, 29 in 1895, and 25 in 1892.

In Dublin the rainfall up to January 31st, 1904, amounted to 2.535 inches on 19 days, compared with 3.269 inches on 20 days in 1903, 1.614 inches on 12 days in 1902, 2.672 inches on 17 days in 1901, 2.579 inches on 27 days in 1900, 2.483 inches on 24 days in 1899, 1.786 inches on 14 days in 1898, 2.694 inches on 17 days in 1897, only .720 inch on 14 days in 1896, and with a thirty-five years' average (1866–1900) of 2.230 inches on 18 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.808 inches, the highest reading observed being 30.753 inches at 9 a.m. of the 22nd, the lowest, 28.864 inches at 9 a.m. of the 13th. The mean temperature was 43.0° , the mean dry-bulb reading at 9 a.m. and 9 p.m. being 42.5° . Rain fell on 16 days to the amount of 2.453 inches, .569 inch being measured on the 3rd.

At Cloneevin, Killiney, Co. Dublin, the rainfall was 2.42 inches

on 17 days, .47 inch being measured on the 2nd. The average fall in January for the 19 years, 1885-1903, was 2.342 inches on 17.2 days. In 1895 the rainfall was 5.93 inches on 24 days; in 1896, .70 inch on 9 days; in 1897, 3.08 inches on 20 days; in 1898, 1.58 inches on 13 days; in 1899, 2.93 inches on 22 days; in 1900, 2.82 inches on 25 days; in 1901, 2.83 inches on 15 days; in 1902, 1.62 inches on 12 days; and in 1903, 2.82 inches on 21 days. Snow fell on the 16th.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 2.735 inches on 17 days, compared with 3.300 inches on 15 days in 1903; 1.860 inches on 9 days in 1902; 4.035 inches on 16 days in 1901; 3.766 inches on 24 days in 1900; 4.395 inches on 24 days in 1899; 2.345 inches on 13 days in 1898; 3.660 inches on 20 days in 1897; and only .485 inch on 7 days in 1896. The heaviest fall in 24 hours was .570 inch, on the 2nd.

Dr. B. H. Steede, writes that at the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell to the amount of 3.310 inches on 18 days, the maximal falls in 24 hours being .522 inch on the 4th, and .519 inch on the 29th. The shade thermometers rose to 53.0° on the 18th, and fell to 32.5° on the 16th and 31st. In January, 1899, the rainfall at this Second Order Station, was 4.760 inches on 23 days; in 1900, 3.810 inches on 28 days; in 1901, 3.541 inches on 14 days; in 1902, 1.666 inches on 12 days; and in 1903, 4.320 inches on 19 days.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, the rainfall was 3.59 inches on 25 days, .63 inch being measured on the 2nd. The corresponding figures for 1902 were 2.28 inches on 14 days, and for 1903, 3.88 inches on 19 days. The mean shade temperature was 42.4°, compared with 40.6° in 1902, and 41.9° in 1903, the extreme readings being—highest, 53°, on the 26th; lowest, 31°, on the 16th, on which day snow fell.

In Cork the rainfall was 5.30 inches on 26 days, an amount which was 1.30 inches above the average. In 1903, 8.07 inches of rain fell on 26 days.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 21 days to the amount of 2.561 inches, .505 inch being measured on the 4th. The total amount of sunshine was 52.6 hours, the largest daily duration being 5.3 hours on the 31st.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall was 8.814 inches on 26 days, the maximal fall in 24 hours being .830 inch on the 6th. The observer, Mr. A. A. Smith,

remarks that severe weather prevailed—thunder, lightning, hail and sleet being of frequent occurrence during the month. He reports thunderstorms on the 7th, 27th and 29th, and thunder and lightning on the 13th.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, Co. Dublin, reports that the mean temperature of that Health Resort was 43.6°, being 0.6° below the average for the month of January during the previous 6 years. The extremes were—highest, 53.5° on the 26th; lowest, 33.5° on the 16th and 31st. At Bournemouth the mean was 40.6°, the extremes being—highest, 52° on the 13th and 14th; lowest, 27° on the 23rd, and the thermometer there fell below 32° on 5 other days during the month. The mean daily range of temperature was 7.7° at Kingstown, but at Bournemouth it was 9.8°. The mean temperature of the sea at Sandycove bathing-place was 42.7°, being 2.6° below the average for January during the previous 6 years. The mean relative humidity of the atmosphere was .84 per cent., being the highest recorded for the month at Kingstown since January, 1900; at Bournemouth it was 90 per cent. The total duration of bright sunshine was 49.2 hours, being 7.8 hours below the average for January during the previous 3 years. It was 52.6 hours at the Ordnance Survey Office, Phoenix Park; 35.4 hours at Valentia, 33.1 hours at Parsonstown, 35.2 hours at Southport, and 33.2 hours at Eastbourne.

A FRENCH BIBLIOGRAPHY OF SCIENCE.

MESSRS. J. B. BAILLIÈRE & SON, 19 rue Hautefeuille, Paris, have just published (1904) a general catalogue of scientific works, running to 112 closely printed pages. The catalogue includes in alphabetical order the full names of the authors of about 5,000 works on Medicine, Natural History, Agriculture, Veterinary Science, Physics, Chemistry, Technology, and Industry, with the date of publication, the size of the book in each case, the number of pages, of illustrations, and plates. A methodical table of subjects, extending to 17 pages, further indicates the principal authors who have written on more than 1,500 topics connected with the various sciences. This "Bibliography," indispensable to all scientific workers, will be sent gratis and post free to all readers of this Journal, who make application to Messrs. J. B. Baillière & Son, by reply post card (reply paid).

PERISCOPE.

THE ROYAL ARMY MEDICAL CORPS.

THE undermentioned gentlemen were successful at the recent Examination in London for Commissions in the Royal Army Medical Corps, and for which 58 Candidates entered.

	Marks
1 G. F. Rugg, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	590
2 D. S. B. Thomson, B.A., M.B., B.Ch., B.A.O. (Dublin)-	588
3 A. S. Arthur, M.B., B.S. (Durham)	562
4 J. Fairbairn, M.B., B.Ch. (Edin.)	555
5 R. G. Anderson, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	542
6 L. Bousfield, B.A., M.B., B.C. Cantab.; M.R.C.S. (Eng.) L.R.C.P. (Lond.)	542
7 J. H. Douglass, B.A., M.D., B.Ch., B.A.O., D.P.H. (Dub)	540
8 D. Le Bas, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	537
9 R. R. Lewis, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	532
10 C. H. Turner, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	527
11 F. H. Noke, M.B., S.B. (Lon.); M.R.C.S. (Eng.); L.R.C.P. (Lon.)	526
12 G. E. Cathcart, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	520
13 E. C. Whitehead, M.B. (Lond.); M.R.C.S. (Eng.); L.R.C.P. (Lond.)	519
14 T. C. Lucas, B.A. (Cantab.); M.R.C.S. (Eng.); L.R.C.P. (Lond.)	511
15 J. A. Turnbull, L.R.C.P. & S. (Edin.); L.F.P.S. (Glasg.)	511
16 W. Wiley, B.A., M.B., B.Ch., B.A.O. (Dub.)	509
17 R. B. Hole, M.B., B.Ch. (Edin.)	508
18 A. L. Otway, B.A., M.B., B.Ch. (Dub.)	506
19 W. F. H. Vaughan, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	503
20 M. F. Grant, B.A. (Cantab.) M.R.C.S. (Eng.); L.R.C.P. (Lond.)	500
21 H. Harding, M.B., B.Ch. (Edin.)	500
22 D. P. Johnstone, L.R.C.P. & S. (Edin.); L.F.P.S. (Glasgow)	495
23 E. H. M. Moore, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	489
24 F. J. Garland, M.B., B.Ch., B.A.O., R.U. (Ireland)	480
25 M. D. Ahern, L.R.C.P. & S. (Edin.)	478
26 H. B. Connell, L.R.C.P. & S. (Edin.)	472
27 G. S. C. Hayes, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	468

	Marks
28 S. C. Bowle, M.R.C.S. (Eng.); L.R.C.P. (Lond.); L.D.S. (Eng.)	462
29 A. A. Meaden, M.R.C.S. (Eng.); L.R.C.P. (Lond.)	461
30 R. J. Cahill, M.B., B.Ch., B.A.O., R.U. (Ireland)	457

THE MERGING OF TWO MEDICAL JOURNALS.

MESSRS. E. B. TREAT & Co., of New York, the publishers of the *International Medical Magazine* and of the *Archives of Pediatrics*, have decided to merge the two journals. During the five years that Dr. Boardman Reed had charge of the *International Medical Magazine* it was his constant aim to have the periodical of the highest character, readable and reliable. The publishers regret that they must discontinue the *Magazine*, and extend to Dr. Reed their appreciation of his editorial labours. It is hoped that the friends of the *International Medical Magazine* will continue their interest by reading the *Archives of Pediatrics*, and thus extend its field of usefulness. The Editor is Dr. Walter Lester Carr.

THE TENDO-ACHILLIS JERK AND OTHER REFLEXES IN DIABETES MELLITUS.

R. T. WILLIAMSON, M.D. Lond., F.R.C.P., of Manchester, has recently examined the tendo-Achillis jerks in fifty cases of diabetes mellitus, and has found both absent in nineteen. It is well known that the knee-jerks are often lost in severe forms of diabetes, and when the knee-jerks have been absent in diabetes he has usually found the tendo-Achillis jerks lost also. But it is interesting to note that in diabetes mellitus, as in locomotor ataxia, the tendo-Achillis jerks may disappear before the knee-jerks are lost. Thus in eight cases of diabetes in which the tendo-Achillis jerks reflexes were lost, the knee-jerks were present. In tabular form, the results of the examination of the tendo-Achillis jerks and knee-jerks in fifty cases of diabetes were as follows:—(A) Tendo-Achillis jerks both absent in 19 cases—in these cases, knee-jerks both present in 8; one knee-jerk absent, one present, in 3; both knee-jerks absent in 8. (B) One tendo-Achillis jerk absent, one present, in 2 cases; in these cases both knee-jerks present. (C) Tendo-Achillis jerks both present in 29 cases; in these cases both knee-jerks present in 28; one knee-jerk present, one absent, in 1. The knee-jerks are often lost in severe forms of diabetes, especially

in hospital patients ; whilst among private patients, with better conditions of life, the knee-jerks are lost less frequently. In 100 cases of diabetes nearly all of whom are hospital patients, Dr. Williamson found the condition of the knee-jerks as follows :—Both jerks lost in 49 cases ; one present, one absent, in 6 ; both present in 45. Amongst 50 cases of diabetes recently examined in private practice he found :—Both knee-jerks lost in 6 cases ; one present, one absent, in 1 ; both present in 43. In severe cases of diabetes the wrist-jerks are often absent ; usually they are lost when the knee-jerks are absent. In 50 cases (mostly of the severe form) the condition of the wrist-jerks was as follows :—Both absent in 30 cases ; both present in 19 ; one absent, one present, in 1. It is to be remembered that the wrist-jerks are sometimes absent in healthy individuals. In the examination of over 100 individuals, who either were in good health or were suffering from some local surgical affection not likely to have any influence on the reflexes, Dr. Williamson found the wrist-jerks present in 75 per cent., absent in 25 per cent. The superficial reflexes—plantar, abdominal and epigastric—are probably as frequently present in diabetes as in health. In the severe forms of diabetes, when the knee-jerks are absent, the superficial reflexes are generally present, and the abdominal and epigastric reflexes are usually much increased. The plantar reflex is of the normal flexor type. In cases in which the knee-jerks are lost, the author had not found any evidence of muscular hypotonus, which is so common in tabes.—*Review of Neurology and Psychiatry*, October, 1903.

FIRST FRENCH CONGRESS OF CLIMATOTHERAPY AND HYGIENE OF TOWNS.

THIS Congress will be held at Nice, during the Easter vacation, from April 4th to 9th, 1904. Professor Chantemesse has been named President ; the Vice-Presidents are—Professor Renaut (Lyon), Professor Grasset (Montpellier), Professor Calmette (Lille), Dr. Balestre (Nice). The discussions will bear on five questions :—1. "The Climate of the French Mediterranean Coast"—Reporting Secretary, Dr. Chiaïs, Mentone. 2. "Adaptation of the individual to Climate"—Reporting Secretary, Dr. Manquat, Nice. 3. "Influence of the French Mediterranean Coast Climate on Tuberculosis and Tubercular Patients" : (a) Clinical and critical discussion on the special conditions

required in order to benefit by this influence—Reporting Secretary, Dr. Baréty, Nice ; (b) treatment of such patients at their homes—Reporting Secretary, Dr. Guiter, Cannes ; (c) treatment of such patients under supervision : Sanatoriums for patients in easy circumstances—Reporting Secretary, Dr. Malibran, Mentone ; establishments for the treatment of poor patients suffering from scrofula or pulmonary tuberculosis—Reporting Secretary, Dr. Vidal, Hyères ; additional reporting Secretary, Dr. Rénon, Physician to the Paris Hospitals. 4. “ The Influence of Climate on the French Mediterranean Coast on Rheumatism and on those subject to Rheumatism—Reporting Secretary, Dr. Moriez, Nice ; additional Corresponding Secretaries, Dr. Huchard (Member of the Academy of Medicine), Dr. Triboulet (Physician to the Paris Hospitals). 5. “ Disinfection of Towns ”—Reporting Secretaries, Dr. Balestre, Dr. Camous, Nice. Great travelling facilities in France and abroad will be granted to members of the Congress and their families. The hotel prices at Nice will be reduced in their favour and may be ascertained beforehand. The members of the Executive Committee for England are :—Dr. G. H. Brandt, Nice ; Dr. Johnston Lavis, Beaulieu ; Dr. MacDougall, Cannes ; Dr. Price Mitchell, Monte-Carlo ; Dr. Stanley Rendall, Mentone. For further particulars, Dr. Hérard de Bessé, Secretary-General of the Congress, Beaulieu-sur-Mer, may be consulted by letter. The members of the Congress will be allowed reductions (50% and upwards), the greater part available from the 1st to the 20th of April, 1904, on the great railway lines of France, the South of France, and Corsica ; on certain English railways (London-Paris) on the steam-liners, running between Nice, Marseille, Corsica, Genoa ; on the Italian railways ; on sleeping cars in France and neighbouring countries. Reduced prices have already been conceded at the chief hotels in Nice, Beaulieu-sur-Mer, Cannes, Mentone, Monaco, &c., a list of which will be supplied on application to Dr. Camous (2 rue de l'Opéra, Nice), specially charged with this matter. Outside of Nice, the members of the Congress will officially visit Monaco, Mentone, Cannes, and Grasse, where fêtes and excursions will be organised in their honour. His Serene Highness the Prince of Monaco will hold a reception at the Palace, and there will be a gala representation at the Casino. At Nice, besides the reception by the authorities there will be gala representations (Opera, &c.). The number

of places, limited in the theatres, will be reserved to the first booked. After the close of the Congress excursions will be organised. Medical students, the families of the members, accompanying the latter, and adhering to the Congress (Special Ticket, 10 frs.), will enjoy the same advantages. In order to take part in the Congress, it suffices to remit to Dr. Bonnal, treasurer (19 boulevard Victor-Hugo, Nice), the amount of the subscription (20 francs), together with names, qualities, titles, exact address very legibly written. Applications should be accompanied with the subscriber's visiting card.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Tabloid" Tri-Bromides Effervescent.

MEDICAL men frequently find that in certain cases the administration of a combination of bromides produces more satisfactory effects than an equivalent dose of a single bromide salt. "Tabloid" tri-bromides effervescent will be found to be an extremely reliable and convenient preparation when it is desired to prescribe the three ordinary bromides in conjunction with an effervescent basis. Messrs. Burroughs, Wellcome & Company, Snow Hill Buildings, London, E.C., have devised and prepared in "tabloid" form the following formula:—Potassium bromide, 0.4 gramme; sodium bromide, 0.4 gramme; ammonium bromide, 0.2 gramme; effervescent basis, q.s. As each tabloid contains approximately 15 grains of the mixed bromides, one to two, powdered and dissolved in half a tumbler of water, may be taken during effervescence, and the dose repeated if necessary at suitable intervals. "Tabloid" tri-bromides effervescent is issued in tubes of 25.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

APRIL 1, 1904.

PART I.

ORIGINAL COMMUNICATIONS.

ART. X.—*Clinical Report of the Dublin (Rotunda) Hospital for Poor Lying-in Women, for the Year ending November 1st, 1903.** By R. D. PUREFOY, M.D. Univ. Dubl., F.R.C.S.I.; Master.

DURING this year 1,992 women were admitted to the Maternity, of whom 1,694 remained under treatment, so that an annual increase in the number of admissions continues. Amongst the interesting cases will be found one closely resembling scarlatina, ending in perfect recovery; three cases of puerperal aphonia, one of paraplegia, arising shortly before the end of pregnancy; and one of missed labour, in which pregnancy lasted nearly 11 months, and was terminated by the abdominal removal of the uterus and contained fœtus. There was also a case of Cæsarean section, in which mother and child were saved.

* Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, January 8, 1904.

VOL. CXVII.—NO. 388, THIRD SERIES.

Q

242 *Clinical Report of the Rotunda Hospital.*

TABLE NO. I.—*Admissions to Maternity Department.*

—	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
Total deliveries -	120	139	129	120	142	130	134	145	171	150	160	154	1,694
Total abortions -	2	2	5	10	7	8	4	4	5	6	5	7	65

TABLE NO. II.—*Dispensary for Out-Patients.*

Number of first attendances	-	-	-	5,132
„ repeated „	-	-	-	6,478
Total	-	-	-	11,610

TABLE NO. III.—*Showing Nature and Number of Cases Treated in the Extern Maternity, 1902-1903.*

Total number of cases	-	2,045	Mania	-	-	2
Abortions	-	237	Mortality, maternal	-	-	5
Hæmorrhage—			Twins—			
Accidental	-	17	Females	-	-	11
Placenta prævia	-	11	Males	-	-	10
Post-partum	-	21	Male and Female	-	-	4
2nd Post-partum	-	1				—25
		—50	Triplets, 2 F., 1 M.			1
Eclampsia	-	4	Operations—			
Hydramnios	-	8	Curetting for abortion	124		
Infantile conditions—			Forceps	-	-	60
Anencephalus	-	4	Manual removal of			
Hydrocephalus	-	2	placenta	-	-	26
Talipes	-	1	Version	-	-	14
		—7	Decapitation	-	-	1
Moles—						—225
Hydatidiform	-	2	Presentations—			
Phlebitis	-	2	Breech	-	-	55
Mortality, infantile (born dead)—			Brow	-	-	4
Macerated	-	16	Elbow	-	-	2
Non-viable	-	23	Face	-	-	4
Premature	-	20	Footling	-	-	5
Recent	-	45	Occipito-posterior	-	-	21
		—104	Transverse	-	-	1
						—92
			Prolapse of funis	-	-	6

MATERNAL MORTALITY IN EXTERN DEPARTMENT ; HISTORY OF CASES.

CASE I.—M. M., aged twenty-three, 1-para ; delivery Dec. 19th. Patient was delivered by natural efforts of a dead child after a slow labour. The placenta came away in 12 minutes, but was followed by *post-partum* hæmorrhage, which could not be controlled by massage and ergot 3iss by mouth. On arrival of clinical clerk the pulse was found weak, and the hæmorrhage continuing in a slow but steady flow. Massage was tried a little longer without effect. Then the uterus was curetted and douched with hot creolin solution. The uterus contracted well several times, but relaxed again, and the hæmorrhage continued. Douching was persisted in for a little longer, when the patient suddenly collapsed, respiration failing, and the pulse becoming imperceptible. Patient presented symptoms of profound shock. Stimulation by strychnin was tried, but patient died in 10 minutes after the sudden change.

CASE II.—R. O'H., aged thirty-seven, sixth pregnancy ; January 13th. Patient delivered herself naturally. The placenta came away normally, but some membranes were retained. These were removed at time of delivery by fingers and douching, owing to slight *post-partum* hæmorrhage occurring. The uterus was lightly curetted. On third day, temperature 102.6°, pulse 112 ; the uterus was curetted and douched. Fourth day, pulse 102, temperature 101.8°. Fifth day, pulse 130, temperature 104.2°. Patient had developed phlebitis, and evidently had acute sepsis. Temperature varied from 105° to 100° ; pulse from 120 to 140. This continued for ten days. The uterus was douched on several occasions, and patient kept on stimulants. She was greatly neglected by the friends who were supposed to be looking after her, who would not carry out any instructions given to them. The patient died on January 26th, the thirteenth day.

CASE III.—Mrs. F., 3-para ; first pregnancy normal, child lived two months ; second pregnancy, five months, miscarriage. This pregnancy terminated in the eighth month. The child was born normally, but the placenta was retained for over an hour, and then had to be removed manually. There was then some very free *post-partum* hæmorrhage. The placenta was found adherent to anterior aspect of lower uterine segment.

There had been no *ante-partum* hæmorrhage, and none during third stage until it had lasted for forty-five minutes. The placenta was with great difficulty detached, some parts being exceedingly fibrous in their attachment. During this the hæmorrhage became very profuse, so that manual efforts to remove some fragments were stopped, and hot douching used. This controlled the bleeding, and then some pieces were removed with a blunt curette. The patient was showing signs of collapse, so further efforts were stopped and the uterus douched and massaged, and then plugged with iodoform gauze. Saline injection by rectum was given, and also subcutaneously; pulse 154, temperature 96.8°. Nothing could be taken by mouth, as patient vomited each time. Three hours later—temperature 97°, pulse 132—another rectal injection was given, and patient slept. Rectal injection repeated with milk and alcohol. Next day—twelve hours after plugging uterus—the plug was removed and uterus douched; temperature 102.8°, pulse 160; complaining of great thirst; patient slept at intervals, was fed by rectal injections of egg and whisky. The pulse and temperature continued high for next day. For the next three days the pulse was very rapid, but the temperature had come down to 100.8°. Stimulants and iron were given regularly, but patient died on fifth day.

CASE IV.—M. M., aged thirty-five, 14-para; delivered August 29th, after eight hours in labour, with a breech presentation. The child born to umbilicus with one arm down, the second arm was in the nuchal position, and was difficult to deliver. The head extracted by Prague method. Placenta born in twenty minutes, and patient appeared quite normal—pulse 86, temperature 99.4°. Sent for doctor two hours later, but patient was dead on arrival. No hæmorrhage had occurred since delivery.

CASE V.—M. D., aged thirty-seven, 11-para; died undelivered. Patient sent up to hospital supposing herself to be in labour. Complaining of pain in abdomen; appeared normal; no bleeding showing; uterus apparently normal to palpate; pulse and temperature normal. On examination the os admitted two fingers, and the child presented by the head; membranes unruptured. Two hours later there was slight discharge of blood. When student was with case the uterus had become more tense, and the patient had become pale; the pulse and temperature

were little altered. The case was diagnosticated as concealed hæmorrhage, and so the vagina was plugged and tight binder applied. When this was completed the patient was very collapsed, though she came from under the anæsthetic well, and spoke a little. She rapidly collapsed, and died before transfusion could be carried out. The plugs were removed from the vagina when the collapse occurred thinking there might be some vaginal tear, but there was absolutely none, and the amount of external bleeding was not more than 4 or 5 ozs.

INTERESTING CASES IN THE EXTERN MATERNITY.

CASE I.—M. W., aged twenty-eight, 1-para; delivered of a female child alive on August 24th. Just as head came to vulva patient had an eclamptic fit, and two more followed before delivery was complete. Patient was in bad health during pregnancy. After delivery patient had seven fits within eighteen hours. She was treated by morphin, and sweated by means of hot bottles and blankets; also hot stupes over abdomen and region of kidneys. She passed no urine, and only 1 oz. came away with catheter during the labour. After the stuping the kidneys began to act, and patient slept after the sweating. No more fits occurred after eighteen hours, and patient recovered. There was morbidity for seven days and rapid pulse (110-125). The temperature became normal on eighth day. The uterus was curetted and douched during the puerperium.

CASE II.—J. C., delivered on September 26th of a living child; twenty-four hours later patient developed eclamptic fits, and had 15 altogether; she was comatose for fifty-one hours; very œdematous about the face and both legs. The pulse was never more than 105; temperature up to 100°. She made a good recovery.

CASE III.—B. O'N., 1-para, was in hospital for ten days owing to eclampsia; she had several fits during this time. Albuminuria and œdema of the extremities and face. The child was evidently dead, and the period of pregnancy seventh month. The eclampsia passed off, and the œdema disappeared on low diet and confinement to bed. Patient left hospital, and was confined a month later in the Extern Maternity of a macerated foetus. There was no return of the albuminuria or the œdema at this time. Patient was quite well on the eighth day.

CASE IV.—E. H., 1-para ; delivered of a living child on October 26th. On fifth day—temperature 103.6°, pulse 120—the uterus was douched and explored ; a mass of firm blood-clot was found adherent to lower uterine segment and removed ; the uterus was then curetted and douched and packed with iodoform gauze. The temperature and pulse remained high ; douching was done daily. On fifteenth day patient had a rigor ; pulse 150, temperature 104.2° ; douched and gauze packing again done. Next day a small hæmatoma of posterior vaginal wall was found. The same condition of pulse and temperature continued for three weeks, when phlegmasia alba dolens developed. This subsided in four days, and the pulse and temperature became normal. Patient discharged well.

CASE V.—B. F., aged thirty, 6-para ; delivered October 31st. The child was presenting with the arm prolapsed, the head oblique in iliac fossa. The cord was prolapsed and had ceased to pulsate. The arm could not be returned, and, therefore, delivery was effected by decapitation.

CASE VI.—M. G., aged forty, 13-para ; delivered on October 26th of triplets. All were vertex presentations ; the third, occipito-posterior. The three children were alive and well when patient was seen on tenth day.

CASE VII.—Mrs. R., aged forty-one, 12-para. Patient considered herself three months pregnant. She had profuse bleeding on December 19th, which ceased ; recurred slightly on December 29th, and again ceased. On December 30th patient sent to hospital on account of profuse watery discharge, which had occurred some hours previously. When seen there was very little bloody discharge, the uterus was tender and two inches below umbilicus. The cervix was patulous at external os ; the internal was closed. Hæmorrhage being inconsiderable, and the pulse and temperature normal, the only treatment adopted was rest and quiet in bed. On January 2nd hæmorrhage again occurred slight, so the vagina was tamponed. Next day patient complained of pain and vomited. The plugs were removed, and the os admitted a finger ; then it was found that the uterus contained a hydatidiform mole. This was broken up with curette and removed ; there was very little bleeding, and after douching none, so the uterus was not plugged. Three days later

bleeding occurred, so the uterus was again douched and then curetted; very little got away. Patient well on fourteenth day.

CASE VIII.—H. M., aged twenty-two, 2-para. Patient considered herself six months pregnant. She had sanious discharge for a month before being seen. When first seen the uterus was half-way to umbilicus; pain above symphysis complained of. The os was patulous, admitted two fingers, and the vagina was found to contain characteristic parts of a hydatidiform mole. The uterus was also filled with this. The pulse was rapid, and temperature 103.6°. The uterus was emptied with two fingers passed in, and when all was removed the walls were lightly curetted with a blunt curette. Hæmorrhage was very profuse during the emptying of the uterus and was difficult to stop, but was controlled by hot douching. The uterus was not plugged at the time; the patient had lost excessively, but the bleeding ceased. She made a good recovery, and was convalescent on the fourteenth day. No further uterine treatment was adopted.

TABLE No. IV.—*Accidental Hemorrhage Cases in Extern Maternity.*

Name	Age	Date	Para	Variety	Treatment	Result to Child	REMARKS
S. B.	29	Dec. 4	4	Ext.	Plugged and tight binder	Dead	6 months pregnant.
J. F.	26	April 26	2	"	Foot brought down	"	Breech presenting; 6 months pregnant; in labour.
M. R.	26	May 2	2	Mixed	Plugged and tight binder	"	Labour followed in 10 hours; clots with child.
K. W.	19	May 4	1	Ext.	"	Alive	Labour in 2 hours; forceps delivery.
M. B.	28	May 8	1	"	None	Dead	Macerated; labour not commenced.
M. B.	—	May 9	3	"	Plugged and tight binder	"	74 months; labour in 2 hours.
H. H.	43	July 14	3	Int.	"	"	Labour in 4 hours; plugs expelled with child.
M. C.	49	July 11	19	Mixed	"	"	Labour in 24 hours; membranes ruptured; patient delivered herself; 2 quarts of old blood clots, with macerated child.
M. K.	—	Sept. 5	13	Ext.	"	"	Labour soon after; breech presentation.
M. B.	—	Sept. 7	11	Mixed	"	Alive	Plugs removed in 18 hours and replaced; labour followed in 5 hours more; some old clots with child.
— L.	34	Sept. 8	1	Ext.	Foot brought down	Dead	Macerated child; foot and arm presenting; patient in labour.
J. F.	—	Sept. 16	—	"	Plugged and tight binder	"	8 months; macerated; plugs expelled with child in 12 hours.
E. W.	36	Sept. 19	9	Mixed	"	"	Labour in a few hours; clots with child.
K. F.	36	Sept. 28	13	Ext.	"	Alive	Plugs removed in 18 hours; no more bleeding; patient delivered herself 2 days later.
— Q.	—	Oct. 12	7	"	Version	"	In labour; also prolapse of cord.
E. D.	—	Oct. 26	6	"	None	"	In labour.
M. D.	37	Oct. 28	11	Mixed	Plugged and tight binder	"	Patient very collapsed; was plugged, but died before transfusion could be effected; child not delivered.

In eleven, out of a total of seventeen cases, the vaginal tampon was used.

TABLE NO. V.—*Showing Number and Nature of Cases Treated in the Intern Maternity.*

Total number of cases	- 1,694	Multiple pregnancy—	
Primiparæ	- - - 576	Twins, viz. :—	
Abortions	- - - 64	Female	- - 10
Deformed pelvis	- - 10	Male	- - 8
Eclampsia	- - - 7	Mixed	- - 3
Epilepsy	- - - 3		- 21
Erythema	- - - 25	Myoma uteri	- - 17
Edema vulvæ	- - 4	Aphonia	- - - 3
Uræmia	- - - 1	Puerperal ulcer	- - 2
Hæmorrhage, viz. :—		Rupture of uterus	- - 2
Accidental	- - 13	Phlebitis	- - - 4
Unavoidable	- - 7	Operations, viz. :—	
Post-partum	- - 28	Forceps	- - 60
Secondary	- - 1	Induced abortion	- - 4
Hæmatoma	- - - 2	Induced labour	- - 8
Hydramnios	- - - 10	Manual removal of	
Morbidity	- - - 146	placenta	- - 24
Mortality, infantile—		Perforation	- - 3
Macerated	- - 32	Version	- - 8
Premature	- - 11	Diseased infantile conditions, viz. :—	
Putrid	- - 1	Anencephalus	- - 1
Recent	- - 34	Cephalhæmatoma	- - 7
Died in Hospital	- - 33	Hydrocephalus	- - 2
Mortality, maternal	- - 9	Ophthalmia	- - 2
Mania	- - - 4	Spina bifida	- - 1
		Hare-lip and cleft palate	- 3
		Supernumerary fingers	- -
		and toes	- - 1
		Abnormal Presentations—	
		Breech and Footling	- 47
		Brow	- - 2
		Face	- - 3
		Occipito-posterior	- 14
		Transverse	- - 2
		Prolapse of funis	- - 9
		Compound	- - 2

INDUCED ABORTION.

CASE I.—H. T., 9-para, aged thirty-five ; admitted March 7th ; four and a half months pregnant. A watery, brownish discharge had been present for some time, so tents were placed in cervix, tampon in the vagina, and a tight binder applied. On the next day these were removed, and the uterus emptied with the aid of Schultze's spoon forceps.

250 *Clinical Report of the Rotunda Hospital.*

CASE II.—M. V., 5-para, aged twenty-six; admitted February 23rd suffering from ascites and the usual prodromata of eclampsia; pulse 120; six months pregnant. A vapour bath was given, one bougie passed into the uterus, eight tents in cervix, and tampon in vagina. Pains set in soon after, and in about eleven hours the vagina was emptied, and the uterus expelled its contents.

CASE III.—M. S., aged twenty-six, 7-para; admitted February 11th; five months pregnant. Threatenings of miscarriage had been present for several days, and the os was patulous. Some hours later bleeding came on and a vaginal tampon was inserted, and on the next day it was found possible to empty the uterus.

CASE IV.—M. M'D., aged thirty-three, 10-para; admitted February 11th; hæmorrhage had been going on for some time; pregnancy somewhat over three months. Tents and vaginal tampon were used, and later on dilatation was aided by Bossi's dilator, and the uterus emptied.

TABLE NO. VI.—*Application of Forceps.*

Indication	No.	Dead Children	Remarks
Delay in 2nd stage, with danger to mother and threatened death of fœtus	48	—	
Threatened rupture of uterus	2	—	
Prolapse of funis	2	—	
Pelvic contraction	1	—	
Hæmorrhage	2	—	
Persistent occipito-posterior	3	—	
Rupture of vagina	1	—	
Eclampsia	1	—	
Total,	60	—	

SUB-TABLE A.—*Showing No. of Pregnancy.*

I.-para	-	-	-	45
II.-para	-	-	-	7
III.-para	-	-	-	3
IV.-para	-	-	-	2
V.-X.-para	-	-	-	3
Total				60

SUB-TABLE B.—*Showing Ages of Forceps Cases.*

17-25	-	-	20
26-30	-	-	18
31-35	-	-	14
36-40	-	-	8

In many of the cases included under the heading "Delay in Second Stage with Danger to Mother or Child" we had reason to believe the second stage had been prolonged considerably beyond the customary time limit of four hours. We have always been of opinion that there are other and more important indications as to the proper time for terminating the labour artificially. In the case of E. G., 5-para, very troublesome vomiting was present for forty-eight hours before delivery. In three cases rotation took place to such a degree that the forceps was taken off and reapplied. In the case of E. C., aged twenty-eight, 5-para, there was anterior fontanelle presentation, and the shoulders were born in the transverse. In the case of A. B., 3-para, the funis was twice round neck, and so tight that it was tied and cut. Child was born alive. In two instances the hand came down in front of shoulders, and in one the hand was felt lying beside head and was pushed up before forceps was applied. In the case of M. N., 10-para, the foetal heart could not be heard before delivery, though the child was born alive. In seven cases there was *post-partum* hæmorrhage, and manual removal of the placenta was required; in three instances. In six cases the child was dead when delivery was effected.

CASE I.—K. M., 1-para, aged thirty; suffered much delay in first stage owing to early rupture of membranes. Extraction with forceps was easy (the child weighing only $5\frac{1}{2}$ lbs.), and was deemed advisable owing to rise of temperature and escape of the meconium. On the third day, the temperature having again risen, exploration of the vagina disclosed numerous thread-like adhesions between cervix, and vaginal walls, some tears in the latter and in the cervix, and offensive discharge. Thorough cleansing of the affected parts and the insertion of iodoform gauze for a few days in succession secured a perfect convalescence on the tenth day.

The history, progress, and treatment of rigid os are well exemplified in the two following cases:—

CASE II.—R. B., aged thirty-six, 1-para; admitted August 14th; palpation disclosed a tense, unyielding condition of the uterus; a prominent tense condition of the round ligaments; pain and tenderness to pressure over the fundus. Fœtal heart very feeble, and varying from 70 to 120 beats per minute; os = size of a shilling, with hard, thin edges; membranes ruptured; $\frac{1}{4}$ gr. morphin was given.

August 15th.—Hip bath and morphin $\frac{1}{4}$ gr.; dilatation taking place slowly.

August 16th.—Hip bath, hot vaginal douche and morphin; os larger. Fœtal heart inaudible.

August 17th.—Os much larger, tightly stretched over head; anterior lip impacted and swollen. Forceps passed inside cervix, and gentle traction exercised, combined with digital pressure upwards on the anterior and post-lips; when dilatation was nearly completed, perforation was performed (without removing the forceps), and the head delivered. Shoulders impacted; the delivery greatly aided by inserting blunt hook in axilla. Convalescence quite normal.

CASE III.—M. A. M., aged thirty, 1-para; admitted October 1st; membranes already ruptured. Os patulous, and very little labour for some days.

October 6th.—Patient complains of abdominal pain, so a hip bath and vaginal douche were given in the morning, the os being then the size of a crown piece; vaginal douche repeated at 5 p.m. At 8 30 no further dilation observable; some dirty vaginal discharge is present; the uterus is tense; the pulse 140. Morphin given and repeated in six hours, and sleep procured.

October 7th, 12 30 o'clock.—Forceps passed inside partially dilated cervix, and gentle traction used; but as the advance was very slow perforation was performed as in preceding case, and the delivery of the shoulders much aided by a blunt hook placed in axilla. Convalescence normal.

In a few cases where a rigid perineum appeared to be one of the causes of delay, extraction was much facilitated by episiotomy. In three cases the uterus was deformed by fibroids, to the presence of which, very probably, inefficient pains were due.

TABLE NO. VII.—*Uterine Fibroids.*

Name	Date	Age	Para	Presentation	Duration of Pregnancy	Child	REMARKS
C. M.	Aug. 5	33	VI.	Vertex	Term	A.	Small fibroid on anterior wall of uterus.
A. G.	Aug. 5	35	I.	"	"	D.	Forceps. Two small fibroids in front.
B.M'H.	June 23	40	II.	"	"	A.	Fibroid posteriorly, p.-p. hæmorrhage.
M.M'D	April 4	34	I.	"	"	"	Fibroid at right cornu
H. B.	April 3	35	IV.	Abortion	—	—	Was in hospital with fibroid uterus two years ago, not much increase in size since.
K. C.	April 3	20	I.	Vertex	Term	A.	Fibroid at each uterine cornu, smart p.-p. h.
M.J.S.	Jan. 3	42	I.	"	"	"	Forceps. Large fibroid on left side.
J.M.C.	Nov. 16	38	IV.	"	8 months	"	Fibroid at left cornu.
E.M'D.	Sept. 2	30	I.	"	Term	"	Pedunculated fibroid at fundus.
C. M.	Sept. 17	30	II.	"	"	"	Several small fibroids at fundus.
R. D.	Oct. 21	27	I.	"	"	"	Fibroid on anterior wall.
B. D.	Sept. 8	31	I.	"	"	"	Forceps.
— W.	—	29	I.	"	"	D.	Large fibroid in lower uterine segment; hysterectomy.
M. R.	Jan. 1	37	I.	"	"	A.	Forceps.
A. M.	Oct. 7	30	I.	"	"	D.	Forceps. Fibroid on anterior wall.
E. B.	Jan. 4	33	XII.	"	"	A.	Some p.-p. hæmorrhage
N.M.	Dec. 26	32	II.	Breech	"	"	Both feet brought down

Seventeen cases in all.

In only two of the 17 cases in this table was the tumour of considerable size; in one of these, though it probably weakened the contractile energy of the uterus, no obstruction to the presenting part took place. In the other the growth encroached so much on the area of expansion that I considered it necessary to amputate the uterus above the cervix. The patient, whose case is separately recorded, made an excellent recovery, and the thinness of the uterine wall in the immediate vicinity of the fibroid shows how justifiable was the proceeding. It is interesting to note that in only three of our cases did *post-partum* hæmorrhage occur.

The diagnosis of pregnancy in a fibroid uterus is sometimes attended with much difficulty, as the following case will show:—

Many years ago a lady from the country consulted me with regard to a large uterine fibroid in anterior wall and fundus of uterus, reaching to the navel. She was forty-one years of age, twelve years married, in excellent health, and had never been pregnant. She did not suffer from pain or menorrhagia, but had recently missed a menstrual period. I advised her to continue without any special treatment; and similar advice was given her by an ex-Master of the Rotunda, who saw her at the same time. She returned to the country, and underwent electrical treatment at the hands of an enterprising local physician; and when vigorous and painful uterine contractions ensued after each treatment, she was comforted with the assurance that these were evidences of great improvement. One morning unusually severe pains set in, and in a couple of hours a healthy infant was born.

In former Reports will be found notes of cases in which each successive confinement was followed by steady diminution in the size of these tumours, while in others no such change was observed. In one case of great interest, pregnancy was attended with such rapid increase in the tumour that I deemed panhysterectomy advisable. A drawing of the uterus with a full account will be found in my Report for the year 1897-8. I think it is interesting to note, taking this table in connection with the similar ones in my former Reports, that—

I.—More than 90 per cent. of the patients affected with fibroids were considerably under forty years of age.

II.—In only a small proportion did *post-partum* hæmorrhage occur.

III.—In a small proportion diminution in size of tumours followed or attended pregnancy.

IV.—In a still smaller proportion increased size of the tumours was observed.

The comparative youth of many of our Maternity patients affected with fibroids is, I think, a very interesting fact in connection with the origin and growth of these tumours, and affords some ground for the belief that pregnancy favours their development.

(*To be continued.*)

ART. XI.—*On a New Retention Splint for Congenital Talipes Equino-varus, with some practical points on the Treatment of the Deformity.** By DENIS KENNEDY, F.R.C.S.I.; Surgeon to the Children's Hospital, Temple-street, Dublin.

MY principal object in bringing the subject of congenital talipes equino-varus under discussion is to introduce to you a new retention splint, as well as to offer some practical suggestions in the treatment of the deformity, and to criticise some of the methods at present in use. In order to do this satisfactorily, it is necessary to understand thoroughly in what the deformity really consists—in other words, the pathological anatomy. With the equinus part of the deformity I need not trouble you. You are all aware that it consists in the posterior part of the os calcis being drawn upwards by the tendo-Achillis, its anterior part being depressed, while the astragalus is tilted forward between the malleoli so that its superior articular facet is placed more posteriorly than normal. The varus part of the deformity is not, however, so simple. Instead of this deformity existing at the ankle-joint it exists principally at the medio-tarsal joint. Whatever the cause, the cuboid and scaphoid, with the foot in front of them, are partially dislocated inwards from the os calcis and astragalus, and kept in this abnormal position by shortened tendons, ligaments and fasciæ. As well as this, the os calcis and astragalus have a

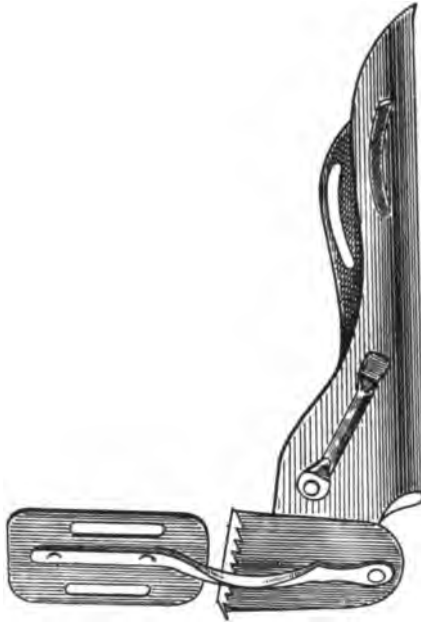
* Read before the Section of Surgery in the Royal Academy of Medicine in Ireland, on Friday, January 22, 1904.

direction from behind, forwards and outwards, which increases the medio-tarsal displacement, and renders the deformity more difficult to rectify. In consequence of this displacement of the bones, their facettes for articulation with each other and with the malleoli, are placed in abnormal positions; and it is well to remember that a cure is not complete until the bones are in their normal position, without any tendency to displacement, their facettes developed in the proper situations, and the muscles and ligaments have accommodated themselves to the new condition of things.

In treating the deformity, the presence of the medio-tarsal dislocation seems to be frequently forgotten, and the efforts of the surgeon seem to be principally directed to rectify the varus deformity from the ankle-joint. The retention splints in use seem to be constructed on the same principle. To my mind this accounts very often for the prolonged treatment necessary, for relapses that often occur, and for the unsatisfactory results that we sometimes see. In the hope of remedying this state of things, I have introduced a retention splint, which I have used for a considerable time, and which has given me a great deal of satisfaction. The advantages which I believe this splint to possess are:—First, eversion and abduction of the foot are produced principally from the medio-tarsal joint; secondly, while this eversion is being produced, the anterior part of the os calcis and astragalus are pressed inwards, and thus the tarsal bones are kept as nearly as possible in a normal position; thirdly, a powerful leverage is obtained which materially aids in correcting the deformity; fourthly, on account of the ratchet arrangement rectification of the deformity can be increased if necessary from day to day, and thus the ill effects of pressure are completely avoided. As well, the splint is simple, easily applied, and, what is equally important, very cheap. The points to be attended to in the making of the splint, are—first, the os calcis must be well gripped by the heel part; secondly, the ratchet arrangement must be immediately behind the medio-tarsal joint; thirdly, the heel part must be low on the outside to allow for eversion. It must fit accurately, scarcely any padding being desirable, except the patient's stocking. The appliance can be used as a retention

splint after operation, either immediately or after removal of plaster of Paris. It can also be used in the treatment of cases before operation, or where no operation seems necessary. In these cases it may take the place of plaster of Paris, and this I consider to be of great service; because the application of plaster of Paris to the club foot of a young infant for any length of time has two great disadvantages—while it is applied, no manipulation of the foot can be carried out, and not alone will development of the muscles not take place, but actual wasting occurs.

The splint is not intended for a walking appliance. It has been made for me by Messrs. Smith & Sheppard, who have spared neither time nor trouble in carrying out my idea in every detail.



With regard to the operations carried out for the cure of talipes equino-varus, there seems to be practically no limit to the number; and when one begins to work at orthopædic surgery the difficulty is to choose between them. I know that was my trouble some five years ago. I believe that, in

dealing with children at all events, many of these operations are quite unnecessary, and some are positively productive of great mischief. Consequently, you will pardon me if I briefly detail to you the steps that I usually carry out for the cure of this deformity, and which in my hands has been productive of very good results. When I consider it necessary to operate, I first do tenotomy of the tendo Achillis, and, if necessary, the anterior and posterior tibial tendons. Then, if I cannot bring the foot easily into position, I insert a tenotome between the internal malleolus and the tubercle of the scaphoid, and cut subcutaneously the plantar fascia and some of the short muscles of the great toe. In the large majority of cases I can then bring the foot readily into normal position, and over-correct the deformity if necessary. I then apply plaster of Paris to the foot in the corrected position and leave it for three or four weeks; subsequently use the retention splint, and have massage and passive motion of the foot carried out a couple of times daily. When the child is fit to walk, I get him fitted with a walking appliance. I believe there is no case in a child that cannot be made perfectly well in this fashion, provided after-treatment is carried out by the parents for a requisite time.

Although, since the advent of aseptic surgery, there is not the same necessity for subcutaneous surgery in operating for talipes as formerly, still it has some advantages over the open method. First, when plaster is applied after the operation it can be done with much greater ease and satisfaction, and there is less danger of sepsis; secondly, the necessity for changing the dressing does not exist, and consequently the bones will be left undisturbed in their new position; thirdly, it is said by some that where open tenotomies are done there is danger of the tendon ends becoming engaged in the cutaneous cicatrix; and lastly, where there is extensive cutting of the plantar fascia or of the short muscle on the inside of the foot, there is much less danger of cicatricial contraction following when the skin is left unbroken. But I may add that I have no hesitation whatever in cutting a tendon openly if there is any difficulty or danger in doing it subcutaneously.

I am perfectly aware that many good authorities hold that

section of the tendo Achillis should not be done until the varus deformity is rectified for some weeks, to allow, as they say, for the folding of the foot to take place. Now, unless where pes cavus exists to a marked degree, I see nothing to warrant this procedure either clinically or pathologically. On the contrary, I consider this tendon should be cut first, and for the following reasons:—In some cases section of this tendon at once enables us to rectify the varus as well as the equinus deformity, and unnecessary cutting is thus avoided. It is impossible in almost all cases to rectify the varus deformity fully until the tendo Achillis is cut, because in those cases the tendo Achillis is inserted into the inner aspect of the tuberosity of the os calcis, and this tilts the anterior extremity of the os calcis outwards, and so long as the tendon remains uncut, the os calcis cannot be brought into position. Lastly, it saves time.

What is all important to produce the necessary unfolding of the inside of the foot in those cases is that the plaster of Paris be applied properly after operation. To do this an assistant grasps the anterior part of the foot with one hand, abducts and everts it, while with the other he grips the heel bone and presses its anterior extremity inwards. The foot should be held in this position while the plaster is being applied and while it is setting. My retention splint keeps the foot in the same position afterwards. Manipulation of the foot should be carried out in the same manner.

The necessity for operating on the tarsal bones and the operations to be carried out are points that have given rise to a great deal of discussion in text-books, and to a good deal of anxiety in operators. After a fairly good experience, I am firmly convinced of the following facts:—First, that all cases in children under twelve years of age can be cured perfectly without any operation whatever on the tarsal bones; secondly, that many older cases can be cured without it; thirdly, that tarsectomy is dangerous, and usually does more harm than good to the foot as regards utility; fourthly, that the only tarsal operations justifiable or that give good results are Bradford's—namely, osteotomy of the neck of the astragalus, and removal of a wedge-shaped piece of the os calcis on its outer and anterior part.

When we remember that the tarsal bones in children are nearly altogether cartilaginous, and that, consequently, with a little perseverance they can be moulded into any shape we wish, it is at once apparent that removal of any of these bones is quite unnecessary; and when we see the after-results of the operation—the shortened, stiffened feet without a trace of elasticity or movement at the tarsal joints, or sometimes even at the ankle-joint—I consider the procedure a little short of criminal. Nevertheless, I frequently see the astragalus removed, or a wedge-shaped piece of the tarsal bones taken from the outside of the foot, for an ordinary case of varus in a child. The great arguments put forward in its favour are that it saves time in the cure and that relapses will not occur. The answer to these is, where the bones are removed no cure is or can be effected, and the same arguments could be put forward in favour of amputating straight off. The two great points to be remembered in treating this deformity are—that we must make the foot as useful as possible and give it good appearance, the appearance being secondary to the utility.

The best workers of the present day at orthopædic surgery condemn tarsectomy. Mr. Keetley quotes the case of a man with double congenital talipes equino-varus; one foot had been subjected to tarsectomy and the other left untreated. The patient found the untreated foot more useful than the other. Tubby says that “tarsectomy should be done only when orthopædic treatment has been tried and failed; when progression is impossible, owing to severe pain and the pressure of inflamed corns and bursæ and ulcerated skin.”

Sometimes I am asked, what is the proper age to operate on infants with club feet? While we cannot make any hard and fast rule as to the age, because a great deal depends on the progress that can be made by manipulation and retention appliances, still, if operation has to be done, I think the earlier it is carried out the better, because cure can be effected with greater ease, the more perfect will be the result, and the shorter will be the time. If milder treatment is not satisfactory, tenotomy need not be delayed after the infant is three months old.

In treating talipes we must remember that half cures are

no cures, and that no matter what operation we do, or how fully we rectify the deformity, the tendency to relapse remains for a considerable time. Consequently, the after-treatment of club foot is all essential. It consists in massage and passive motion of the foot daily, and in providing the patient with a good walking appliance. I find this occasionally the most difficult part of the treatment. As a rule the majority of parents when told what to do, shown how to do it, and impressed with the necessity of having it carried out, are very willing to co-operate. The great difficulty is with the instrument makers. The appliances for walking are expensive, complicated, go out of order frequently, and the child outgrows them. Besides, a good many of them are not entirely satisfactory in keeping the foot in good position. The best in the market is undoubtedly Bradford's.

Some of you may possibly think that a discussion on the treatment of congenital club foot is unnecessary, and anyone who takes the recorded results as gospel will agree with you.

But, while fully convinced that every case of congenital talipes in a child can be cured perfectly, nevertheless we frequently meet cases that go from one surgeon to another, from one hospital to another, and even from one country to another, and are still uncured. At the present moment I have under my care a boy, aged nine years, who was twice operated on in a London orthopædic hospital. Quite recently I had another boy, aged ten, who was operated on several times in Johannesburg, and I occasionally even get cases who have been previously operated on in Dublin. And as an excuse for my present communication to you, I cannot do better than quote for you the remarks of Bradford, of Boston, on the treatment of club foot: "The literature of the treatment of club foot is, as a rule, that of unvarying success; it is often brilliant, and yet in practice there is no lack of half-cured or relapsed cases—sufficient evidence that the methods of cure are not universally understood."

ART. XII.—*Clinical Pictures of Children's Diseases.*^a By
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the Royal City of Dublin Hospital; Physician to the
Orthopædic Hospital of Ireland, &c.

NO. XXIII. — RICKETS.

(Continued from page 172.)

SYMPTOMS.

It is very important to recognise rickets early, for at this period only can permanent deformity be prevented, and good health restored to the child. Once bony changes have begun irreparable damage has been done, and treatment avails little. It is cases in this condition that crowd our orthopædic and surgical wards, in the hope of the deformities being remedied. Many are beyond relief. Moreover, it is only the survivors of rickets that we see in these hospitals where a natural, though faulty, cure has been effected and the bones have become ossified in erroneous positions. We see not the thousands who have died in acute rickets from nervous complications, or more frequently from intercurrent affections of the lungs and bronchi, or some of the specific fevers. The greatest danger in rickets lies in this liability to contract secondary ailments from which recovery is often hopeless, and although rickets ranks low in the scale of direct causes of death as certified, it is responsible for the deaths of more children than possibly any disease with which we are acquainted.

The chief signs of rickets will be found to be the following, and I place them in the order of their usual appearance, so as to emphasise the early signs of the disease. This is not the order of frequency as clinically found at the first visit—which my percentages will show—for when the child first comes under observation the disease is often far advanced, the early symptoms have passed away, and the opportunity of arresting them has likewise gone.

^a These short essays have been dealt with mainly from the clinical aspect of the subject, as practical acquaintance with these diseases is much needed by senior students. They are based on original observations as recorded in my own case-books.

1. *Gastro-intestinal symptoms* are found in nearly every instance. In touching on the ætiology of the disease I alluded to the presence of digestive symptoms appearing very early in, or preceding the onset of, rickets. A protuberant tumid abdomen, the stomach and intestines distended with gas, a condition of chronic diarrhœa, and frequently a growth of thrush in the mouth, are very constantly seen early in rickety cases. These symptoms are produced by the improper and injudicious feeding, which in the first instance originates the disease. We have so constantly the sequence of starchy and vegetable foods, gastro-intestinal fermentation, and then the development of rickets, that there is little doubt in my mind but that they stand in the relations of cause and effect; and it is in the highest degree probable that this fermentation in the alimentary canal gives rise to toxins which produce the disease. The nature of such toxins is, however, as yet undiscovered.

The liver is sometimes, and the spleen very frequently, enlarged, and both organs may be felt several finger breadths below the costal arches. In some cases these organs are also pushed down by the deformed thorax, and with the intestinal flatus and shallow pelvis combine to protrude the abdomen into its characteristic condition of distension.

2. *Sweating*, especially of the *head*.—This is a symptom of the greatest importance, for it is one of the earliest to appear, and gives the physician a sure clue to the dyscrasia which is about to develop.

They sweat profusely during or while falling off to sleep, and awake in a perspiration. It sometimes affects the whole body of the child, but is mainly about the head.

3. A very constant and early symptom of rickets is the disposition of the child to *kick the clothes off* at night time. They have a peculiar dislike to heavy clothing, and prefer to lie uncovered. I think this can be explained in many cases by the feeble respiratory power becoming further embarrassed by tight or heavy covering, partly by the excessive perspiration into which the child lapses each time he falls to sleep and from which he likes to cool himself, while it also may be in some part due to uneasiness or pain in the bones which make him restless. Thus a rickety child lying stripped by

night should attract attention to his breathing, his sweating, and his pain.

4. *Nervous Symptoms*.—The nervous symptoms of rickets are varied and characteristic. Chief amongst them is the presence of a *convulsive diathesis*, or tendency to epileptiform seizures. Convulsions are very common. In many instances we have also observed the fits in other children of the family. Of course there are many other causes of convulsions, but if this convulsive diathesis of rickets be present a thousand irritants may produce a fit. This is beautifully exemplified by the family of K., cited later on. *Tetany*, with its peculiar contractions of the hands and toes, is sometimes seen, and is said to be seasonal and to appear in outbursts. It sometimes persists into later childhood. *Laryngismus stridulus*, or child crowing, is a common accompaniment of rickets. It is a convulsive disorder or neurosis of the larynx, causing sudden arrest of the breathing for a few seconds in the position of expiration, followed by a crowing inspiration when the air rushes in with a stridor. The child is suddenly seized with a musical inspiratory spasm, sounding like a horn, for four or five breaths, which then relaxes and the previous type of breathing is resumed. It occurs suddenly, when the child is running about, or in the night, with no warning. It varies from a slight crowing sound to severe fits of dyspnoea and cyanosis, with the hands clenched, the limbs stiff, the veins turgid, the face blue, or even convulsions. The attacks are frequent, sometimes four, six, eight, ten, or even more in a day. Most cases have the "crow," but the worst spasms are the silent ones where the strangulation is complete. The superficial reflexes will frequently be found exaggerated, while the knee-jerk and deep reflexes are commonly dulled. These children are sometimes backward in talking. In other instances a peculiar "nervousness" is evident, and I have found along with this a jerky irregularity of the heart.

5. *Delayed Ossification*.—This is seen earliest in the cranial bones. The *fontanelles* remain unduly patent. The anterior fontanelle may be enormous, measuring even 5×4 finger breadths, and in some extreme cases the posterior fontanelle is distinctly patent also.

The anterior fontanelle, which usually closes about the 18th month (15th to 18th), is sometimes extremely late in ossifying in rickets. The following examples are sufficient to show this, and also the connection with improper food :—

Case	Age	Anterior Fontanelle	Early Food
T. H.	39 months	"1 finger's breadth" -	Bread and milk and potatoes at 1 month old
A. N.	29 "	"4 × 3 fingers' breadth"	Neave's food, cornflour, potatoes, and oatmeal at 3 days' old
B. H.	28 "	"open" - -	Mellin and rain water at 6 months
O. F.	27 "	"open" - -	Bread and milk at birth
E. Z.	27 "	"open" - -	Milk and water (no cream) at birth and then Neave's food

In some aggravated instances I have found both fontanelles patent, and joining each other, no union of the parietal bones having taken place at all.

Dentition is delayed, or may be absent altogether. Delay in the appearance of teeth is, hence, an anxiety on this score, and associated with other symptoms is a constant result of rickets. Many children, nevertheless, are "late" in the development of their teeth, and eventually escape rickets entirely, but in confirmed rickets the dentition is always slow.

The dentition in aggravated cases is remarkably arrested. The following is an instance in an extreme case :—

G. W., aged fifty-four months ($4\frac{1}{2}$ years); no teeth at all. Early food consisted of oatmeal and gruel.

In another instance, S. K., aged twenty-four months, had only two teeth.

Numerous others could be cited.

6. *Bony Changes*.—These consist, clinically, in arrest of normal development; bulbous enlargement of the ends of the long bones; softened condition of all bones already formed; incomplete calcification of growing bones, and stunting, with deformity of the skeleton, with eventually undue hardening of the bones. When these evidences of

rickets are present irreparable damage has been done. In severe cases the entire frame participates in the deformities, and stunted growth is added to the distortion. Firstly, *the head* is characteristic, large in size, sometimes even approaching the minor degrees of hydrocephalus ; it rarely escapes. It has a square shape, with prominent eminences on the frontal and parietal bones. These protuberances, known as "Parrot's nodes" or "bosses," produce a depression on the vertex of a cruciform shape, and hence the term *natiform* has been applied to describe the skull. This condition of the bones may be so extreme that one might almost expect the sulcus thus produced to hold water. The vertex here resembles a "hot cross bun," with its transverse and antero-posterior depressions. The fontanelles are unduly patent, and are very slow in closing. Usually obliterated soon after the 18th month, they remain unossified for a considerable time, running on well up to the second year. In some extreme instances the two fontanelles may even join, the cranial bones showing such little disposition to grow. Literature contains constant allusion to the presence of *craniotabes* in rickets, a condition first described by Elsässer. This consists in a thinning or attenuation of the cranial bones, especially the occipital, which when once noticed can scarcely be forgotten. The bone yields readily to the pressure of the finger, and can be easily indented or driven inwards without pain to the child, when it immediately returns with an elastic spring to its former level. It resembles a felt hat, or cardboard box, which can be similarly acted upon. In my experience this condition is extremely rare; if indeed ever present, in true rickets. I have seen it in congenital syphilis, but in a very large number of cases of rickets I have sought in vain for its presence. In cases of great intensity, where rickets has produced its worst effects on the child's frame, I have repeatedly been struck by the marked absence of *craniotabes*. This may not be the exact experience of others, but in the cases which have come under my notice it is never present in true uncomplicated rickets. Evidence of the disease may be found in nearly all the long bones. The clavicles are frequently bent, and I have seen them nodular, osteophytic, and the seats of fracture, from muscular action or upward pressure from the hands. The forearms

become curved where the child sits much in bed leaning on the hands to aid in supporting the trunk, and the humeri are distorted in some severe cases. This upward pressure also curves the clavicle. The ends of the bones become enlarged and bulbous, and this is especially marked at the wrist joints, so that a sulcus or ring depression exists across the joint between the carpus and the enlarged end of the radius. The term "rachitic bracelet" has been applied to this condition. The ankles also show enlargements of the tibial ends.

The Chest shows marked deformity in most cases. The ribs are "beaded" at their junction with the cartilages, and a series of rounded nodules pass down this line on each side, giving the name of "rickety rosary" to the condition. This enlargement is even more plainly visible on the internal surface whenever a *post-mortem* inspection is obtainable, and reaches its maximum in the four central ribs. Those ribs, which are most movable, are apparently chiefly affected. In addition to this the chest as a whole suffers deformity by a transverse constriction above the level of the abdominal viscera, which is very marked. The ribs in rickets are softened, as other bones throughout their whole length, so that when the diaphragm descends during each inspiration the thorax is unable to maintain its rotundity against the atmospheric pressure until the lungs are filled with air, consequently the softened chest is driven inwards. This is often much increased by the presence in rickety children of some obstruction in the air passages, such as adenoids, chronic enlargement of the tonsils, frequent fits of laryngismus stridulus, and bronchial catarrh with collapse of the lung, all very common accompaniments of the disease. Thus respiratory obstruction becomes the worst possible complication of rickets. The particular shape assumed by the chest will depend on the circumstances of the case. "*Pigeon breast*" is produced when the softened portions are close to the sternum, while the angles can withstand the pressure—the chest in this case narrowing as it comes forward to an apex in the sternum. *Transverse constriction* frequently takes place immediately above the abdominal viscera, which firmly distend the lower ribs to their full. Thus there is also bulging and eversion of

the costal arches. This is increased by the naturally large liver in infancy, the commonly dilated and distended stomach and intestines, and the enlarged rickety spleen—all tending to bulge the lower ribs to their fullest extent. The upper portion of the chest suffers in these cases, and the lungs are frequently the seat of collapse. There is often a large sulcus or hollow in the side of the chest into which the elbows of the child very comfortably fit, and it is not impossible that such pressure may produce the condition.

The Spinal Column has usually a characteristic curve. The rickety spine is easily differentiated from other curvatures, as its special features are :—(1) A complete absence of pain ; (2) no tenderness ; (3) it is a kyphosis or antero-posterior deformity with the convexity backwards ; (4) it is especially visible when the child is in the sitting posture, and disappears completely when the child is lifted or suspended by the arms ; (5) there is no undue prominence of any special one or two of the vertebræ, but all participate in the curve ; (6) there is no tenderness on pressure of the head downwards, or any evidence of acute vertebral disease ; (7) it never presses on the cord to any extent, and hence, of course, is not attended by the serious troubles of Potts' disease ; (8) it is due to muscular weakness, and not to intrinsic disease of the vertebræ.

In acute cases of rickets the bones may be very tender. This is frequently observed in the early stages, and is a valuable evidence of the disease. As a rule rickety children dislike being interfered with ; they prefer being left alone in their cots, and are placid and quiet when undisturbed. Handling them in the acute stages is often resisted by pain, and the child cries. Similarly, if the child has learnt to walk and has been getting about a little, the effort is given up, and he gets " off his feet " again. Most likely this is due to the pain of opposing surfaces of tender bones. This pain and tenderness in the bones rises to its zenith in the peculiar condition known as " scurvy rickets," where subperiosteal hæmorrhages occur around the shafts of the long bones. I have seen in a severe case of this kind which recovered under my colleague Mr. Moore, in the Royal City of Dublin Hospital, the child yell with the most extreme agony whenever the bones were touched, or a visitor went near the cot, and they were at

this time so soft that the legs could be bent at will by the surgeon.

Rickety bones subsequently become extremely hard, and the surgeon often has untold difficulty in his operations for osteotomy.

I once witnessed a skilful surgeon dealing with a rickety femur of ivory hardness in a youth, and, knowing the difficulty, I had the curiosity to count the blows of the mallet used with the osteotome. The bone was not fractured even by the large number of 840 strokes.

In these cases a condition of osteo-sclerosis or condensing osteitis succeeds to the rickety softening, and the vascular, fibrocellular, pliable bone of early rickets becomes compact, dense, and ivory like.

It seems almost a remonstrance by Nature that if we allow the bones to become deformed by neglect in the earliest stages they shall not be remedied with ease!

7. There is usually *inability to stand or walk* in the acute cases; or should the child be well "on his feet" already, this is frequently given up, and he has to be carried again. Walking is often delayed owing to the presence of rickets, and here we have additional evidence of the tender and painful condition of the bones, which do not permit of their being used with comfort. The general want of muscular tone magnifies this condition, and the joints are sometimes so lax that the child has been regarded as paralytic (pseudo-paralysis).

To the above characteristic symptoms and signs must be added the liability in all these children to contract bronchitis and chest troubles. The tendency to catarrh of all mucous membranes is extreme in rickets, pre-eminently so in the alimentary canal, and the bronchial catarrh, which is constantly found, is much aggravated by the feeble respiratory power and distorted chest. Bronchitis of the large tubes is the most frequent complication, and collapse of the lung is a common result. Owing to the weak condition of the thoracic frame, and the flabby, feeble muscular system of the rickety child, the pulmonary complications of rickets are often serious and fatal.

There is a sallow, lemon colour, or pasty look of anæmia

in many cases, and the child is sometimes stunted in growth, with dwindled, wasted limbs. Other children are fat, bloated, and heavy, having the appearance of being overfed, but their tissues are soft and flabby, and they show many of the worst evidences of the disease. Many of these cases readily contract disease, and quickly fall a prey to intercurrent maladies.

The Symptoms of Rickets in the order of frequency as clinically found at the first visit, showing how the early symptoms pass away and the bony changes develop.

1. *Bony changes* found in 78.37 per cent. of rickety children at their first visit, comprising :—Longbones, 56.75 ; chest, 37.83 ; head, 27.02 ; spine, 5.40.

2. *Sweating*, 62.16 per cent.

3. *Delayed ossification*, 62.16 per cent, comprising :—Large fontanelles, 40.54 ; delayed dentition, 35.13.

4. *Gastro-intestinal symptoms*, 43.24 per cent.

5. *Kicking the clothes off*, 29.72 per cent.

6. *Nervous symptoms*, 24.32 per cent., comprising :—Convulsions, 16.21 ; laryngismus, 5.40 ; irritability, 5.40 ; tetany, 2.70 ; cardiac irregularity, 2.70.

7. *Inability to stand or walk*, 24.32 per cent.

8. *Anæmia*, 13.51 per cent.

9. *Pulmonary troubles*, 5.40 per cent.

The following epitomised instances will serve as very brief examples of the disease in its main features :—

A. N., a little girl, aged twenty-nine months ($2\frac{1}{2}$ years), was brought for inability to walk, or even stand. She had never stood yet, even with help. She was born properly at full term, with normal labour, but was never fed at the breast. The mother contracted "puerperal fever," and the child was put out to nurse when three days old. The food at this time consisted of Neave's food, and cornflour, with oatflour, snowflake-flour, and mashed potato. She had diarrhoea frequently during infancy, but no other illness. On examination the child was still sweating ; the anterior fontanelle measured four by three finger breadths ; she lay very placidly and apathetic in the mother's arms ; could not make any attempt to stand, and cried with pain at once on attempting it. She would not even

creep on the floor. Diarrhœa still persisted. She had eight teeth. All the bones were very tender, and the child cried when touched. No craniotabes could be elicited, but the sagittal suture was patent.

T. H., a boy, aged thirty-nine months ($3\frac{3}{4}$ years), was brought for pain when standing, and inability to walk. His troubles began with profuse sweating as an infant. He was born properly at full term, with normal labour, and fed entirely at the breast for one month only. He was then given bread and milk and potatoes as his diet, along with occasional breast feeding. He suffered from diarrhœa constantly as an infant, and was "born with snuffles." There were no rashes or sores on his body at any time, and he had no other illness. The mother had "bad sore throats," with a raucous hoarse voice, and had a rash on her face. There were seven other children living, and four children had died—one in convulsions, at $2\frac{3}{4}$ years; one 24 hours after birth, and two prematurely ("stillborn") as twins. On examination, the child evinced pain on standing, and inability to walk. The anterior fontanelle was still patent. There was extensive nodular beading of the ribs, and falling in of the sides of the chest. The forearms were bent, and the wrists showed well-marked bulbous enlargements of the lower ends of the radius and ulna. The tibiæ were bent forwards. The knee-jerk was not obtained. The abdomen was much distended. The spine showed an antero-posterior rickety curve (kyphosis), but was otherwise normal.

. In this case there seems to have been, in addition, a history of syphilis.

S. K., F. K., Cl. K., C. K., and H. K., are five very rickety children surviving out of a total family of eight, born healthy and at full term. Two others died from convulsions at $2\frac{5}{12}$ and $3\frac{7}{12}$ years, and the remaining boy from pneumonia, who was five years old before he began to walk or talk, and then became deformed. They lived in a healthy suburb at Rathfarnham. The diet upon which each one of the eight children was fed as an infant in the first year was—Neave's food, with tea, bread and milk, and potatoes. All five children have deformed legs from extreme rickets. All have been late in teething, and, including the three who are dead, none of the eight ever had more than two teeth at two years old. They all sweated profusely

about the head as infants, and habitually lay stripped by night. The limbs were all straight till two years old, when they began to walk. S. K., who is now sixteen, had frequent fits of spasms in the fingers and toes, suddenly coming on while sitting quietly. These spasms still continue. Sometimes the hands shut up with the fingers in the centre; at other times the thumbs stick out in wrong directions and cannot be got back. Occasionally the toes are similarly affected. These spasms last only for about five minutes, but recur very frequently. Each of the eight children suffered from convulsions on several occasions, as the mother says "the least thing would send them off into a fit," and two died in the convulsion. They have all been fat, almost bloated, children, but constantly contracted illness, and had no power of resistance. They are now permanently deformed from aggravated rickets, and probably unable to earn their livelihood.

The intimate connection between rickets, convulsions, and tetany is remarkably well illustrated by this family. (History from the mother.^a)

(To be continued.)

ART. XIII.—*Tetany: Its Association with Chronic Affections of the Stomach.*^b By JOHN BOUCHIER HAYES, M.D., B.Ch., D.P.H. Univ. Dubl., J.P.; Medical Visitor in Lunacy, Rathkeale, Co. Limerick.

THE subject of tetany is a most interesting and fascinating one, and as its causes and symptoms are most obscure and generally unknown to the general medical practitioner, it often escapes recognition, or is confounded with some very important disease or toxic condition caused by the introduction into the system of some poisonous substance. I will confine my remarks principally to cases occurring in adults, and its relation to affections of the stomach.

I have met with two cases in a practice extending over eighteen years. Both suffered from a stomach affection, and one, at least, has a very important medico-legal bearing.

The mother, who is a strong, healthy woman, was when a child left the sole survivor of her family, who were drowned in the celebrated and tragic accident to the Portobello omnibus.

^b Being the substance of a Thesis for the Degree of Doctor of Medicine in the University of Dublin read on Monday, February 15, 1904.

Tetany is defined in a very able and exhaustive article on the subject by Dr. W. B. Drummond in the twelfth volume of the "Encyclopædia Medica" as "an affection characterised by tonic spasm, intermittent, remittent, or continuous, of the extremities, associated, as a rule, with sensory symptoms, and with an increase in the irritability of the muscles and nerves to electrical and mechanical irritation." This affection was discovered in 1830 by Steinberg, who described it as a rheumatic contraction of the extremities. It was further described by Dance in 1831 as "a form of intermittent tetanus." The disease became generally known by the writings of Trousseau, who called it "rheumatic contraction occurring in nursing mothers" (*contracture rhumatismale des nourrices*).

Many of the cases of so-called idiopathic tetanus, which get well of their own accord, or by the administration of tetanus antitoxin, are, I believe, true cases of tetany.

Tetany in Relation to Chronic Diseases of the Stomach.—

The diagnosis of tetany in my own cases took place only after reading "A Case of Dilated Stomach ending Fatally in Tetany," by Dr. William Calwell, of the Royal Victoria Hospital, Belfast. That case was reported in the *British Medical Journal*, June 28, 1902. The first of my cases was believed in the first instance to be a case of strychnin poisoning until the analysis of the stomach contents proved it was not, and the second case simulated tetanus so very closely that I believed it was a case of tetanus, and this was further corroborated by the presence of a slight skin wound. I certainly would have been inclined to report this case as one of "Idiopathic Tetanus with Recovery."

The association of tetany with dilatation of the stomach was first described by Neumann in 1861 and more recently by Kussmaul in 1869. Several interesting cases of the condition have since then been reported.

Tetany associated with gastro-intestinal affections forms Group II. in Frankl-Hochwart's elaborate classification. Tetany may arise in definite association with various acute infections, such as acute dyspepsia, gastro-enteritis, peritonitis, appendicitis and enteric fever. Diarrhœa plays a most important part in causation when it is chronic and exhausting

in character. The same may be said of persistent vomiting, as it is exemplified by one of my cases—in fact, any factor which exhausts or debilitates the constitution is very liable to induce an attack of tetany. Trousseau speaks of chronic diarrhoea as almost constantly present in his cases. In exceptional cases obstinate constipation has been present, and the symptoms have been relieved by the administration of purgatives. Catarrhal jaundice and entozoa have also been regarded as causes. Many cases of tetany have been observed in association with chronic affections of the stomach.

The theory which has been accepted by most writers of the present day to account for the symptoms of tetany is a "toxic theory." Tetany may, therefore, be regarded as a group of symptoms produced by the action on the nervous system of a toxic substance or substances which may arise under different conditions, and whose nature is unknown.

The following are the cases of this affection which I have observed :—

CASE I.—Mrs. K., aged forty, married ; family history good. A pale, cachectic-looking woman who had been under treatment for twelve months. She stated she had been in perfect health until she suddenly began to vomit, and at periods since this disturbance continued. I diagnosticated ulcer of the stomach and ordered a small blister to the epigastrium ; *mistura bismuthi*, *morphinæ et acidi hydrocyanici diluti* ; lime water, and other remedies, without effect.

As her husband had been indicted for having administered strychnin to a near relative, from which the person undoubtedly died, he had acquired a sinister reputation, and, though acquitted on that charge, I had the contents of the stomach analysed for arsenic, with a negative result. The patient was then removed to hospital, and was going on fairly well. The husband visited her, and gave her some grapes and soda water, when almost immediately she was seized with spasms, involving the whole upper and lower extremities, but becoming particularly rigid in the arms and hands. This occurred daily, and the gastric irritation and vomiting continued unchecked. Exhaustion supervened, which ended in death. The intense tetanic spasms simulated strychnin poisoning, and a rigid opisthotonic condition of the body after death—in fact, the body rested on the head

and shoulders and heels, the buttocks hardly touched the flat table on which the corpse lay—gave, as it were, corroborative evidence of death from strychnin poisoning.

An inquest was held, and a *post-mortem* made, and as the stomach had to be forwarded to an analyst, it was not opened, but tied up and forwarded with contents. No poison was detected in the stomach or viscera, so that this was a case of tetany simulating strychnin poisoning. I was very sorry I had not an opportunity of observing the condition of the stomach, pylorus and duodenum; but the circumstances pointed so strongly to death from strychnin poisoning that the stomach contents had to be carefully preserved.

CASE II.—John C., aged thirty-five years, suffered from a bad stomach, with occasional attacks of hæmatemesis and heart-burn for five years. Vomiting set in suddenly about two hours after meals; the pain was relieved by vomiting, and other symptoms characteristic of dilatation and ulceration of the stomach were present. The lower border of the stomach was felt below the umbilicus.

One evening in October, 1900, he complained of being weak, and suffered from a severe attack of hæmatemesis, and about a week later on there was slight trismus, the wrists and elbow were flexed, the toes and feet dorsiflexed, and the hands noticed in accoucheur form. The tetany continued with intermission for twenty-four hours, and was accompanied by a superficial form of respiration and cyanosis, as emphysema of the lungs was present for some time. Under treatment by saline enemata, massage, hypodermic injections of morphin, the symptoms passed off, and he got well for a time. About twelve months later he got a similar attack and died from it.

ART. XIV.—*Clinical Observations in Eastern Hospitals.*

By PERCY N. GERRARD, B.A., M.D., Univ. Dubl.; District Surgeon, Selangor, Federated Malay States.

CASE I.—*Malarial Sleeping Sickness.*—Tan Keoh Tong, a Chinese (Hylam), aged twenty-five, was brought to the General Hospital at Kuala Lipis in a semi-comatose condition on the 19th of January, 1902. His friends stated that he had been ill for seven days, one of them stating—"He simply sleep all day; he go bed and sleep quite quiet."

His past history is as follows :—Nine years ago he left China and came to Malacca, where he remained about one year. He then went to Paulau Arang, remaining there two years ; at the expiration of his two years stay in Paulau Arang he returned to China, where he lived for one year and two months. He returned then to Paulau Arang, where he remained about one year ; thence he went to Klang, remaining there for seven months. Passing on to Tanjong Malim he got severe fever there, and remained only one month. He then spent one month up Bukit Kutu (3,200 feet), and leaving this after one month came to North Ketchu, where he also got severe fever. Moving thence to Punjom, where during his three months stay, previous to his admission to Kuala Lipis Hospital, he gives a history of moderately severe fever, and an attack of dysentery and proctitis.

The history of his present illness is as follows :—Eight days before his admission to hospital he “ broke out all over his body ” in a rash, which he describes as “ like sand-fly bites.” This marked the commencement of his present attack. He became so somnolent and unconscious that his friends brought him to the hospital on a stretcher. He has never been unconscious or comatose since his admission, but has had the general appearance of one “ concussed.” When spoken to loudly he wakes and can talk slowly, haltingly, and sleepily. He states that he knew at the time that he was being brought to the hospital. There is no history and no trace of skull injuries or syphilis. He has, in fact, phimosis and the prepuce has never been retracted from its appearance.

January 26th, 1902—Present condition.—His voice is somewhat high-pitched and hoarse ; his speech, as described ; his tongue coated ; his temperature, which has been of a remittent type during the earlier days after his admission, is now daily and constantly normal. He gives a history of moderate drinking ; states that he “ occasionally got drunk.” The liver is somewhat contracted. Spleen is enormous and hard, it extends past the left nipple line, and is easily observed and palpated. He has never had hæmoptysis, but at the present date he has a sanguineo-purulent nummular sputum and occasional cough. During the time he has been in hospital I have observed him daily and at different hours, but I have never seen him sitting up ; he has almost invariably been lying in some position of extreme relaxation and with his eyes shut. He has made marked improvement

under intramuscular injections of five grains of quinine; and to-day (January 27th, 1902), when entering the ward, although he was apparently asleep on my arrival, he opened his eyes as I approached his bed; formerly he remained asleep or dozing until he was shaken. As a proof of his dormancy I may mention that the usual premonitory inflammation over the sacrum is present, for which treatment is now being adopted to prevent the forming of a bed sore. His lungs do not exhibit any physical signs which would account for the sanguineo-purulent expectoration. An attendant wakes him to take his food, and he occasionally, if roused by any noise, drinks some milk of his own accord.

It must not be assumed from the foregoing remarks that the patient's condition is so lowered by wasting disease of any nature that his condition is the natural result of that disease, as when ordered after being roused he will walk up and down the ward quite firmly and well; nor is there any very marked wasting, although he is naturally spare after the fever to which I have alluded.

In view of the recent proofs of the presence of the *Trypanosoma*—which causes sleeping sickness—in the cerebro-spinal fluid, it seems to me an interesting consideration whether malarial parasites and pigment may not have a similar effect in the cerebro-spinal fluid as the *Trypanosoma gambiense*, and that the action of the latter may possibly be due purely to irritation of the cerebro-spinal system caused by the presence of foreign bodies in that fluid. Although no lumbar puncture was performed in this case it seems to me a reasonable hypothesis that malarial parasites were the cause of the somnolency, and on the analogy of the *Trypanosoma* that they had invaded the cerebro-spinal fluid.

CASE II.—*Lobar Pneumonia without Cough*.—A Bengalee, aged about thirty-three, was admitted to hospital early in 1899 complaining of fever and weakness. About three hours after his admission I saw him. His temperature at that time was 103.4°. He stated he had been ill for eight days. The description of the case led me to expect an ordinary sharp continued malaria, but on seeing the man and taking his pulse its compressibility struck me, and on examining his heart I found that a slight pericardial effusion existed, but without any determinable

endocardial abnormalities. He had a pleuritic friction rub over the anterior surface of the left lung, and crepitation, dulness, increased vocal fremitus and resonance over the lower lobe of the left lung, not, however, extending upwards quite to the limits of the lobe.

When he first came in he was put on a stimulating quinine mixture by the dresser on duty. This I subsequently changed to liquor ferri perchloridi.* He had his crisis on the eleventh day, coming down from 103.6° to 98° in 48 hours, and rapidly convalesced. His urine contained no chlorides at the time of his admission. He was never heard to cough by any of the attendants or dressers from the time of his admission. On the morning after his crisis his lung cleared and no pleuritic friction or effusion could be made out.

This case is interesting, I consider, for two reasons—firstly, as showing that the constitutional disturbance which accompanies pneumonia is so easily recognised as compared with other cachectic states; and secondly, from the fact that, probably owing to the warmth and moistness of the tropical air, no cough, which is usually a marked symptom, ever appeared. His sputum was not examined for the diplococcus, as none could be obtained. Similar cases would be of interest if they have ever occurred in temperate climates.

CASE III.—A Tetanoid Case, with Negative Bacteriological Results.—A Chinese named Bong Siew, aged thirty-five, was brought to the General Hospital on April 25th, 1900, suffering from an incised wound of the left leg. On his admission to the Surgical Ward and examination, the wound was found to be four inches long, extending from the centre of the left tibia outwards, and backwards at right-angles to that bone. The depth of the wound was about an inch and a half at its deepest part. The wound was stated to have been caused by a broken bottle, but careful probing for glass splinters was negative. It was therefore sutured and dressed dry as usual. There was a considerable amount of serous discharge from the wound subsequently, and it healed very slowly, but the patient was practically fit for discharge, as far as his injury was concerned, on May

* The treatment of pneumonia by liquor ferri perchlor. was advocated in the "Epitome of Medicine," Brit. Med. Journ., about three years ago. It has been invariably successful in my experience.

12th, the evening before his tetanoid symptoms declared themselves.

On May 13th, on my morning visit, the patient complained of inability to open his mouth, and some stiffness of the affected leg. His eyes presented also the "peering look" which accompanies the early stage of tetanus, but the corners of his mouth, instead of being elevated as in the classical "*risus sardonicus*," were markedly depressed, presenting in this case a "*risus melancolicus*."

Taking the case for one of incipient acute tetanus, I had him at once transferred to an isolated room; his bedding burnt; the unhealed portion of the wound treated with carbolic acid, and a 1-20 carbolic compress applied, exhibiting internally belladonna and bromide of potassium. His symptoms became progressively worse up to a certain point, but I regret to state that the fact of his having no typical spasms, coupled with the fact that the man had no friends, and, indeed, was practically a vagrant, misled me at first into supposing that he was to a large extent malingering in order that he might be permitted to remain in hospital.

On May 22nd I submitted him to a severe trial with a strong faradaic current, and finding that his spasms, though atypical, were painful and prolonged and apparently involuntary, I was obliged to diagnose chronic tetanus. This date it will be noticed was *twenty-seven* days after the reception of his injury, and nine days from his first tetanoid symptom.

That the case, therefore, may not have been one of acute, sub-acute, or chronic tetanus, but rather one of general chronic tetany, I desire to submit in consideration of the type of the spasms and the results of the bacteriological and pathological examinations. There was a continuous tetanus of the muscles, principally of the legs, thighs, and back, with extreme rigidity on attempting to move any particular set. These attempts were also accompanied by severe pain. He had control of his muscles to some extent, despite the rigidity present throughout his illness, and when desired to flex his knees could overcome his extensor spasm with difficulty and great pain. The amount of voluntary flexion of the affected leg was through an angle of about 45 degrees. In making these attempts at flexion, he invariably rolled over on his face, by the help of his arms, first. His arms, although somewhat rigid were not so severely affected as his legs, nor was his left leg (the

uninjured one) as tetanic as his right. No draughts of air or ordinary nerve shocks, such as doors slamming, &c., made any difference in his condition, the sole causes of increase in his spasms being direct local stimulation or attempts at voluntary movement. He could turn from side to side with the assistance of his arms and hands grasping the bed, but when on his side both legs were tense and straight with his ankles hyper-extended, and his toes also. The abdominal muscles were tense at all times, as also were the muscles of the back. The diaphragm was not affected while his body remained at rest, but some difficulty in respiration apparently took place on movement. Trismus was well marked throughout, as was also continuous spasm of the depressores anguli oris.

On June 5th, twenty-three days after the appearance of his trismus, a small patch of fluctuation under the skin, adjacent to the wound, was found. This I incised with a bistoury and evacuated about 3i. of thick, curdy pus, and applied a carbolic compress, without any amelioration, however, in his symptoms. Slides and tubes were taken off this pus.

Temperature.—During the first week subsequent to his admission his temperature fluctuated between normal and 101° F., ruling about 100° at night. At the end of his second week, after being eight days normal, it shows a slight rise to 100°, which preceded a sharp attack of malarial fever of an irregular type, which yielded to quinine, his temperature remaining normal until two days before his death, when a rise to 99° was recorded. Death took place with a subnormal temperature on June 18th, fifty-four days after his admission and receipt of the injury, thirty-six days after the first appearance of trismus. The pulse throughout averaged about 100, and the respirations were approximately 22 and shallow.

The bacteriology of this case, owing to difficulties of plating cultures, has been most incomplete. But as slides were taken of the pus evacuated on May 12th and at the *post-mortem*, and also on these occasions agar-agar tubes were inoculated, the results of these superficial investigations, together with the pathological investigation of the spinal cord by Dr. Hamilton Wright, render the case of interest from a diagnostic point of view. I append the results obtained. In the slides prepared from the pus on the 12th of May, the usual micro-

organisms were in evidence, mixed also with some indefinite forms of bacilli. No tetanus bacilli could be found.

In the tubes and slides which were taken *post mortem*, similar micro-organisms were found, the only difference at this time being that there was a preponderance of straight bacilli. This bacillus was morphologically absolutely unlike the *Bacillus tetani* when stained with fuchsin, &c., so no efforts were made to identify it. Nothing typical of acute tetanus was found *post mortem*. There was no increase of cerebro-spinal fluid, nor any congestion of the cord or membranes. The site of the wound when cut into revealed a small amount of deep-seated pus, similar to that found on the occasion when the abscess was opened *ante mortem*; it was thick, yellow, and curdy. Rigor mortis was well marked and early. There were no glass splinters in the wound.

Dr. Hamilton Wright, Director of the Institute for Medical Research, reported that he "found absolutely no evidences of tetanus" in the cord which he kindly examined for me.

THE ANTIQUITY OF HOSPITALS.

MANY centuries before the Christian era there existed in India and Ceylon institutions which performed the functions of hospitals ("Real Encyclopædie," Eulenburg). They were built and maintained by the Buddhists. In the Scriptures there is a mention of what the Hebrews called Bethesda, but this was nothing more than a few rude huts in the neighbourhood of a mineral spring supposed to have healing properties. According to Lecky ("History of European Morals"), the first hospital was founded by a Roman lady named Fabiola, about the fourth century, at Rome. Soon after another hospital was founded by St. Pamachus, and another by St. Basil at Cæsarea. During the crusades numerous hospitals arose in all parts of Europe. San Spiritu, built by Innocent III., was erected in 1204 at Rome. The first hospital in England was built by Lanfranc, Archbishop of Canterbury, in 1080. The first hospital of any size erected in America was the Pennsylvania Hospital in Philadelphia, begun in 1751 by Dr. Bond and Benjamin Franklin.—*Philadelphia Medical Journal*.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Lectures on Diseases of the Nervous System. Second Series. Subjective Sensations of Sight and Sound, Abiotrophy, and other Lectures. By SIR WILLIAM R. GOWERS, M.D. London: Churchill. 1904. Pp. 250.

IN this volume there are ten lectures. They have all been printed before, but they now appear after careful revision, and the first lecture, on Subjective Visual Sensations, has been re-written. They deal with a wide range of subjects, and abound with instructive and suggestive matter.

The series opens with the author's Bowman Lecture for 1895, which has been, as already stated, re-written. It begins with physiological considerations on the visual centres in the brain. It is maintained that besides Munk's half vision centre in the occipital lobe there is a higher visual centre in the angular gyrus. These centres are intimately connected with one another, and in their functions the latter differ markedly from the occipital centres. These functions, the relations which the centres have with one another and with Munk's centres in the occipital lobe, and the probable course of visual impulses in the brain, are all discussed. There are then some most interesting observations on colour vision, and then a description is given of the visual sensations in migraine and epilepsy. The descriptions are illustrated with numerous drawings, which have been made by different sufferers from these distressing diseases. The whole lecture is full of matter which cannot fail to interest both physiologists and physicians.

The second lecture, on Subjective Sensations of Sound, is a reprint of the Bradshaw Lecture, delivered before the Royal College of Physicians in 1896. It is scarcely of less interest than the first, and, like it, contains much of physiological value. We would notice the protest made against the too-

ready diagnosis of auditory nerve atrophy to explain labyrinthine deafness in tabes. Sir William Gowers holds that nerve atrophy is very rare in this disease. Also the case—a German one—where the internal carotid was tied for the relief of tinnitus with disastrous results, and the comments on it are worthy of notice.

As an appendix to this lecture there is a proposal for a better and more uniform designation of the different octaves than has hitherto been adopted. It is proposed that the middle C, that is the note with 264 vibrations on the first ledger line above the bass, and on the first ledger line below the treble stave, be represented by C without addition. The successive octaves above this are represented respectively by C¹, C², &c. ; while those descending from C are represented by C₁, C₂, &c. This gives considerable symmetry to the expression. We cannot, however, but think that there would be less liability to error if small letters were used for the octaves above the unnumbered one, and large letters for those below. The position of the numbers would be then indifferent, and the indication of the octave would not depend on whether the small figures were placed above the level of the letter, as in algebraic indices, or below that level, as in chemical symbols. However, anything which would introduce international uniformity would be of advantage to physics, physiology and medicine.

The third lecture is on Abiotrophy, or Diseases from Defect of Life. It deals with the failure of vitality of certain structures or tissues of the body as distinguished from death in the ordinary sense, or that of the whole. Premature baldness, premature greyness, primary muscular atrophy, whether pseudo-hypertrophic or not, are given as examples. But the lecture deals chiefly with forms of abiotrophy in the nervous system. Of these several examples are discussed.

Of the other lectures we can do no more than give the titles—Myopathy and a Distal Form ; Metallic Poisoning, dealing with Lead and Arsenic ; Syphilitic Diseases of the Nervous System ; Inevitable Failure. A Study of Syphilitic Arterial Disease, giving an account of a case of supposed syphilitic tumour of the brain, in which a favourable prognosis was given, but which turned out to be one of extreme arterial

disease, and which terminated fatally. Syringal Hæmorrhage into the Spinal Cord; Myæsthenia and Ophthalmoplegia, contributed to the *Deutsche med. Wochenschrift* in honour of the seventieth birthday of Professor von Leyden; and, finally, The Use of Drugs.

These titles will show the range and interest of the subjects treated of in this volume. If we were inclined to find fault we might perhaps complain of a certain diffuseness and wordiness of style, a tendency to indulge in philological discursions, and occasionally passages of grandiloquence, or what the Americans would call tall writing. We might adduce as examples the long defence of the term abirophy, and the following passage:—"It is strange, indeed, to note how far back goes the use of the drugs on which we most rely. Most of these can be traced far back into the distant past until they are lost in the blue mists which shroud alike the hills of Greece and the deserts of Arabia, or to the time when the world learnt its wisdom from the land where now the symbols of man's thought lie deep beneath the desert sand or stand silent in the cold moonlight of a long dead past."

This sometimes aggravates us in these days of rapid reading when we want as quickly as possible to come to the root of the matter. Still we should ill express our feelings if we did not acknowledge our indebtedness to Sir William Gowers, not only for this volume, but for his other writings. He says: "I count it a high privilege to teach, but a privilege far higher to help men to teach themselves." For our part we have learned much from his writings, and we hope and believe that by his assistance we have been able to learn something for ourselves. We, therefore, always welcome a new work from his prolific pen, and, while we express our gratitude for the teaching we have already received, we hope we may add anticipatory gratitude for prospective instruction.

Bulletin of the Ayer Clinical Laboratory of the Pennsylvania Hospital. No. I. Issued October, 1903. Philadelphia. Pp. 88.

THE Ayer Laboratory has been founded by funds given by Mrs. Josephine M. Ayer and her son, Mr. Frederick Fanning

Ayer, the latter of whom has also endowed the Bulletin, of which this is the first number.

In the announcement of this series of Reports, Professor Flexner tells us that by the systematic pathological investigations conducted in the laboratory a great amount of material is being collected which is looked on as too valuable to be stored away in the records of a clinical laboratory. "It is not intended, however, that the Bulletin should be used as a means of epitomising the routine examinations made either in pathology or for the several clinical departments of the Hospital. Excellent opportunities are afforded by a large hospital for investigation along certain lines of work, and it is the result of such investigations carried out in the laboratory which seemed available for publication in the form of a series of reports." The Bulletin will appear at intervals determined by the amount of material collected for publication. "It will be sent to those interested in its contents who will make a request for it."

In the present number there are four papers.

The first is a considerable work on "The Pathological Histology of Hodgkin's Disease, with a Report of a Series of Cases," by Dr. Warfield T. Longcope. As a result of his investigations the author draws the following conclusions:—

"1. Hodgkin's disease should be considered as a distinct clinical and pathological entity.

"2. The lesions in the lymphatic glands and other organs are especially characterised by the early increase in the lymphadenoid tissue, with later proliferation of endothelioid cells, formation of uninuclear and multinuclear giant cells, thickening of the reticulum, and final overgrowth of connective tissue. Eosinophiles, although not specific, are frequently found in great abundance. Together with the abundance of eosinophiles in the lymph glands, the eosinophilic leucocytes and myelocytes of the bone marrow are increased.

"3. The process originates in lymphoid tissue, and during the course of the disease new lymph glands are constantly being formed, which ultimately become the seat of the lymphomatous growths.

"4. In rare instances the retro-peritoneal lymph glands may be the only group affected.

"5. The etiology of Hodgkin's disease is so far unknown. The tubercle bacillus plays no part in the production of the lesions."

Eight cases are recorded. Eleven plates are appended showing the appearances of some of the patients, and the appearances presented by the glands, both to the naked eye and under the microscope ; and a long list of bibliographical references is given.

The second paper by Dr. Louis M. Warfield is "The Report of a Series of Blood Cultures in Typhoid Fever." The blood was taken by a sterilised syringe from a vein at the bend of the elbow, and distributed in flasks of bouillon and of litmus milk. These were incubated at 37.5° C. If bacilli were present the bouillon became turbid and the blood at the bottom assumed a dark colour. This usually occurred within 24-48 hours, but sometimes not for 4 or 5 days. The identity of the bacillus was always determined. Contamination almost never occurred. The examinations were generally undertaken for diagnostic purposes, and were seldom repeated on the same patient. "The results do not represent, therefore, so much a careful bacteriological study of the blood in typhoid fever, as the practical value of blood cultures in the routine procedures of medical diagnosis."

Forty-eight patients were examined. Of these, five were slight and doubtful cases. Widal's reaction was negative. No bacilli were found. In the other forty-three cases, in which the diagnosis was almost unquestionable, bacilli were found in thirty-three, or 76.5 per cent. Seven cases terminated fatally. Five of these gave positive results. The other two died during convalescence of complications, and it was at the commencement of these complications that the blood was examined. In twelve cases the bacilli were found in the blood before the Widal reaction developed.

It was found, in accordance with the observations of others, that the percentage of positive results was higher if the examination was made early in the disease than in the second or third week. The earliest positive culture was got on the fifth day, and the latest on the thirty-seventh day of the disease.

In the third paper Drs. Louis M. Warfield and John K.

Walker record a case of "Acute Ulcerative Endocarditis caused by the Meningococcus (Weichselbaum)." From the patient's blood this organism was cultivated, which has been done only twice before, while this is the first case in which the meningococcus has been found to cause an ulcerative endocarditis. Unfortunately the patient's head could not be examined to see if he had meningitis, but at no time did he present the symptoms of this disease.

The last paper is by Dr. L. M. Warfield, and describes "A Mild Case of Dysentery yielding *Bacillus dysenteriae* (Shiga) in large numbers." The stools consisted wholly of mucous and blood. They contained no amœbæ, but numerous rod-shaped bacteria. In cultures they gave the *Bacillus dysenteriae*, of that type which produces acid in mannite-litmus agar-agar.

The patient's blood gave the Widal reaction and agglutinated both the typhoid and dysentery bacillus. It is possible that prior to the supervention of the dysentery he had been suffering from a mild attack of typhoid fever.

In conclusion, we must congratulate all concerned on the first number of the Bulletin, and wish the publication every success.

A Manual of General Pathology for Students. By SIDNEY MARTIN, M.D., F.R.S., F.R.C.P. London: John Murray. 1904. Pp. 502.

THIS work, the author tells us, attempts to give in a short space a clear account of the processes of disease which it is necessary for the student to appreciate in order to follow the study of scientific medicine. In this attempt it must be said to have fully succeeded, as the work represents well the present condition of scientific knowledge in the subjects with which it deals. If we contrast it with the great work of Paget (1853), or with that of Cohnheim (1877), we shall see the enormous advance which has been made within the last quarter of a century in the knowledge of the causation and intimate nature of diseased processes—an advance for the most part due to the recognition of the part played by micro-organisms in the production of disease.

In the first chapter on inflammation we notice that Pro-

fessor Martin admits that some emigrated leucocytes develop into connective tissue cells, although most of the newly-formed cells are derived from pre-existing cells of the tissue; also that the newly-formed blood-vessels are at first mere channels in the tissue, which only subsequently become connected with the old vessels.

After a short chapter on changes in the body temperature in disease, chiefly pyrexia, we find the subject of infection treated in four chapters. In the first there is an account of the infective agent, moulds, blastomycetes, bacteria, the conditions of their growth, and the variability in their virulence. In the second, the chemical products of bacteria and their action are considered. Of these bacterial products five chief groups are distinguished:—(1) Poisons produced by the digestive or the destructive action of bacteria on proteids. (2) Poisons which are the result of the digestive or destructive action of bacteria on proteids, formed in the same medium as an excretion (the toxin) of the bacterium. (3) Poisons which are only excretions. (4) Poisons which are typically intracellular, but are also excretory. (5) Non-toxic or slightly toxic elements, which are important in the formation of antitoxin.

A good account is given of the products of individual bacteria—anthrax, diphtheria, tetanus, typhus, *Bacillus coli* and *B. enteritidis*, cholera, tubercle, glanders, as well as snake venom, abrin and ricin, and of the symptoms produced by the introduction of these substances into the body.

The next chapter deals with the infective process, giving the proofs of infection, its sources, modes, and course. It is noticed that there are but few infective diseases which are antagonistic to each other; more frequently they aid one another. This is peculiarly the case in the infections of scarlatina and diphtheria. In some few cases one infection is antagonistic to another, as pus cocci to plague bacillus, and *Bacillus pyocyaneus* to anthrax. Examples are then given of different infective processes.

The section on tubercular infection is illustrated by good diagrams, showing the spread of the infection through the body according to the primary seat of invasion. In this chapter the amœba of dysentery, the malaria parasite, and malignant growths receive notice.

The last of the chapters on infection deals with immunity—natural and artificial; with immunity in different diseases—vaccinia, anthrax, cholera, typhoid, plague, diphtheria, &c. It also contains sections on agglutinins and coagulins, and on the theory of immunity and antitoxins.

We then come on chapters on the degeneration and regeneration of cells and tissues; changes in the circulation; œdema and dropsy; changes in the respiration; changes in the blood; thrombosis and embolism; hæmorrhage and pigmentation; the effects of diseases of the liver; of diseases of the kidneys; of the ductless glands; changes in metabolism; and changes in the nervous system.

The work is thus seen to be very comprehensive, and it is indeed wonderful what an enormous amount of information the author has contrived to pack into his pages.

The text is illustrated by numerous figures, many of which are coloured, many are reproductions of microphotographs. Some of these are very successful, others less so. A coloured plate of blood spectra forms a frontispiece to the volume.

No references to original authorities are given, nor is there any bibliography. This omission is, we know, considered by many to be wise in a book intended primarily for students. There is a very fair index.

On the whole the work is one we can most cordially recommend to everyone who wishes to have in a moderate compass a pretty complete statement of the present condition of knowledge in the subject of General Pathology.

A Pocket-book of Clinical Methods. By CHARLES H. MELLAND, M.D. Bristol: John Wright & Co. 1903.

THIS pocket-book deals with the simpler methods only, and so is useless to those doing advanced work; but to help beginners nothing ought to be taken for granted, and full information as to the strength of solutions used, &c., ought to be given. For example, in making quantitative estimate of sugar the directions are:—"Equal parts of *phenyl-hydrazin hydrochloride* and *sodium acetate*—half an inch of each—are placed in a test-tube which is then half filled with the suspected urine," &c. On page 18, in dealing with the ova of

intestinal worms, the following paragraph occurs :—"They present, however, sufficiently distinct differential characteristics to enable an accurate diagnosis of the particular worm to which they belong to be made." The author should either have given the differential characteristics, or else, more wisely, have inserted the words "do not" before "present."

Studies in Heterogenesis. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. With 815 Illustrations from Photomicrographs. London: Williams & Norgate. 1903. Pp. 354 + xxxvii.

THIS work consists of four parts. Two of these have been already noticed in this Journal. In the third and fourth parts the author continues his researches on spontaneous generation, and on the heterogenetic origins of several lower organisms. In the fourth part also will be found matter very interesting to the medical reader, as in it the author maintains that he has proved that "there is no escape from the conclusion that different kinds of bacteria may take their origin within the tissues and cells of animal organisms; and that bacteria and their allies, as well as the simpler forms of fungi, may have a similar *de novo* origin within the closed cells of many vegetables and fruits."

He reprints from the *Annals and Magazine of Natural History*, Oct., 1903, his paper on the Origin of Bacteria and their Allies by Heterogenesis, and in the appendix he reprints from *The Lancet*, Oct., 1903, his paper on the Great Importance from the Point of View of Medical Science of the Proof that Bacteria and their Allies are capable of arising *de novo*.

That such a proof, if conclusive, would be of the utmost importance who can doubt? The entire question rests on the conclusiveness of the evidence brought forward by Dr. Bastian, and while it is impossible not to recognise the determination shown by him in carrying on his work in the face of the almost universal scepticism and opposition of the scientific world, and while it is impossible not to admire the indefatigable industry of which this work is the outcome, we must confess that for the present our faith in antisepsis

is not shaken, and that we still look on the presence of bacteria in the body as certain evidence of infection from without. Still, we freely admit that we may be wrong. As Dr. Bastian says, after the severe shocks which our notions of conceivability in regard to physical phenomena have recently received by revelations concerning wireless telegraphy, the mystery of radium, the electrical theory of matter, who would dogmatise and attempt to set bounds to the potency of matter, living or not living?

Dr. Bastian's work certainly deserves, and will doubtless sooner or later receive at the hands of scientific men, the attention it deserves; in the meanwhile our readers will find in his writings much that will interest them and suggest to them new lines of thought.

A Manual of the Practice of Medicine. Prepared especially for Students. By. A. A. STEVENS, A.M., M.D.; Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, &c. Sixth Edition, Revised and Enlarged. Illustrated. Philadelphia, New York, London: W. B. Saunders & Company. 1903. 8vo. Pp. 556.

HAVING reached the sixth edition the present text-book may be regarded as safe from the critical detractor, as well as above the help of a friendly reviewer. We are told that many articles have been entirely rewritten; also the entire section on the diseases of the digestive system.

We are bound to believe—from the previous success of this manual—that the work is a useful one to students, and will continue to be so till our educational system has undergone many radical alterations. At the same time we cannot help expressing our regret that the present modes of teaching and of examination should render the widespread employment of such a volume desirable, or even practicable.

Although neatly and judiciously arranged, the contained

matter is far too superficial to give the student reliable notions on any of the most important questions connected with either the theory or the practice of his profession.

Charles White, F.R.S.: A Great Provincial Surgeon and Obstetrician of the Eighteenth Century. An Address delivered before the Medical Society of Manchester, October 7th, 1903. By CHARLES J. CULLINGWORTH, M.D., F.R.C.P. &c., &c. With Notes and Illustrations. London: Henry J. Glaiser. 1904. 8vo. Pp. viii + 56.

THE personality and reputation of the truly great provincial surgeon with whose memory and life-work the contents of this volume deal, furnish a theme worthy of an epic in the domain of morals and of science. The fact is somewhat strange, and, regretfully be it said, bears gloomy testimony to the still unregenerate state of humanity, that the greatest enemies and destroyers of the human race have always received the lion's share of its admiration and praise; while its truest benefactors and healers have been rewarded with negligence, or contempt, or persecution.

Charles White performed his prolonged pilgrimage (of more than 84 years) in this world between the years 1728 and 1813. Yet how many educated citizens of the British Empire in the present day—other than those of his own profession—have ever heard of his name, although perfectly familiar with that of every Cabinet Minister of the same period, who insisted on the increase of the National Debt, and of every Xth-rate general officer who carried sword and flame amongst the defenceless natives of Asia, Africa, America and Australia? Surely if any member of a civilised community has more reason than his neighbours to realise the truth of the great moral adage that "Virtue is its own reward," it is the earnest worker of our profession, whose intellectual attainments and physical energies are wholly expended in the promotion of the welfare of others. Too often his material reward is in the inverse ratio of his merits. Even where fortune has been most propitious, it never has been more than a minute fraction of that of the leading contemporary scourges of humanity, and seldom equals that

of the most ignorant and fraudulent professional quack of the period.

Accordingly it is gratifying to find so able a champion as Dr. Cullingworth coming forward to advocate the claims of Charles White on the homage of posterity. Every true lover of his profession will read this inspiring (and excellently-written) essay with profit. It sketches the career of a true moral and scientific hero. On this very account we give no extracts. We wish our readers to read, mark, learn and inwardly digest for themselves the lessons and facts herein given. We will just remind them that Charles White, of Manchester—the *truly* “great provincial surgeon”—is known to the initiated as one of the earliest pioneers in the excision of joints; the inventor of a special method of reduction of a previously unmanageable luxation; the deviser of a special method of amputation of the leg; the advocate of a special mode of conducting the third stage of labour; and a special authority on the nutritive value of cows’ milk, and the practice of forestry in its useful and ornamental aspects.

We will close this far too inadequate notice by mentioning—in the form of a slight Hibernicism—that Charles White was a follower of the “Darwinian Theory” long before the birth of Charles Darwin!

The Dublin University Calendar for the Year 1903-1904.

Volume II. Dublin: Hodges, Figgis & Co. London, New York, and Bombay: Longmans, Green & Co. 1904. 8vo. Pp. 335.

THE first hundred pages of this second instalment of the “Dublin University Calendar for 1903-1904,” contain a list of the officers of the University and College who were in office on January 1, 1904; the results of the Honours and Prize Examinations during the academic year; the results of the examinations in the Schools of Divinity, Law, Physic, and Engineering; lists of the Degrees conferred in 1903; the certificates awarded in the Theory and History of Education; Diplomas in the Practice of Teaching; the results of examinations for women; and a continuation of a list of officers of the various College Societies, prizemen,

degrees, benefactors of Trinity College, Fellows and Scholars, given in the Special Supplemental Volume for 1901.

The remainder, and larger portion of the volume, is taken up with lists of the present Members of Trinity College, the *Senatus Academicus*, and University Electors.

At page 114 it is stated that the total number of students on the College books under the degree of M.A. was 955—including "Scholars of the House," 69; "Fellow-Commoner," 1; "Pensioners," 849; "Sizars and Ex-Sizars," 36. The "*Senatus Academicus*" includes 458 members; while the Parliamentary Electors number 4,703. In this long list mistakes are bound to occur; we have detected several, and accordingly suggest that note should be taken of the Registrar's request that corrections as to names, degrees, residences or deaths should be brought under his notice.

The Physiognomy of Mental Diseases and Degeneracy. By JAMES SHAW, M.D. Bristol: John Wright & Co. 1903. Pp. 80.

THIS little volume, which is based on some papers contributed by the author to the *Medical Annual*, contains a useful short account of the subject (extending the term *Physiognomy* to include all that can be ascertained from the inspection of a patient), considered with special reference to diagnosis and prognosis; and numerous interesting observations, bearing on those points, will be found scattered throughout the book. The chapter on "The Physiognomy of Degeneracy" is scarcely so satisfactory as some of the earlier ones, owing to condensation, being, indeed, little more than a list of "stigmata." The illustrations are well chosen and numerous, though the execution of some leaves a good deal to be desired. Those in the last chapter are mostly borrowed from Peterson. The book should prove of interest to those requiring a brief synopsis of the subject.

PART III.

SPECIAL REPORTS.

PROGRESS OF NEUROLOGY AND PSYCHIATRY.

By W. R. DAWSON, M.D., F.R.C.P.I. ; Medical Superintendent,
Farnham House, Finglas ; Divisional Secretary for Ireland,
Medico-Psychological Association.

KORSAKOFF'S DISEASE.

SEVERAL communications have appeared within the last year upon this psychosis, which is one of several at present fighting for recognition as morbid entities. The disease is of toxic and usually of alcoholic origin, commences as a rule like delirium tremens, and is characterised by a polyneuritis, with which are associated certain cerebral symptoms, the essential ones being impairment of ideas of time and space, with loss of memory (especially for more recent events), the place of which is supplied by fabrications (pseudo-reminiscences). Some authors, however, do not consider the polyneuritis essential. Soukhanoff and Boutenko*, in their extended critical digest of the literature, have collected records of 192 cases (112 men and 80 women). Alcohol was the cause in nearly three-fourths of the cases, and more frequently among the women than among the men. Next came typhoid fever, and then pyæmia, jaundice, and isolated cases of other conditions, mostly toxic. The age at which most cases originate is 46 to 50 for men, and 36 to 40 for women. Polyneuritis was present in every case except those of 10 males. Complete recovery is rather rare, but is commoner amongst the females, and in alcoholic cases. Death is a frequent termination, often due immediately to tuberculosis, rarely to encephalitis and softening. The pathology is rather vaguely given, but Gudden has stated that encephalitic processes, especially near the third ventricle, were often found in such cases, and

* Journal of Mental Pathology. Vol. IV. 1903. P. 1.

Seifert (1900) found similar changes, most marked in the central convolutions, and recent degeneration of the nerves and muscles. Soreys (1900) also found peripheral nerve degeneration and "impairment" of the brain cells, and thought the disease to be a form of Wernicke's polio-encephalitis, the cerebral cortex being first affected in the former, the cranial nerves in the latter. Soukhanoff and Boutenko are firmly convinced of the existence of the disease as a distinct morbid entity. This is not the opinion of Meyer and Raecke*, however, who published in 1903 a contribution on the subject based on 8 further cases, from which they draw the conclusion that "Korsakoff's symptom-complex is not a disease *sui generis*," and that "it is above all by no means an exclusively alcoholic psychosis." They found the causes to be very various—general paralysis, brain tumour, post-apoplectic demential alcoholism—but in almost all there was a marked organic lesion of the central nervous system. Only one case is said to have recovered.

In England two papers on the subject have recently appeared. The first, by J. Turner^b, is a study of 12 cases in women, in 10 of whom alcoholism was ascertained, and in 2 probable. Peripheral neuritis was probably present in all, certainly in 10, and all presented the cardinal mental features of the disease. Four strongly resembled delirium tremens at one part of their course, and the connection of Korsakoff's psychosis with that condition is one which has been insisted on by several authors. Seven cases were discharged (but mostly with grave defects of memory persisting), two died, and three still remained. One case was carefully examined *post mortem*, and recent degeneration of peripheral nerves discovered, as well as degeneration in the crossed pyramidal tracts of the cord, and slightly in the posterior columns. The cells of the posterior root-ganglia, some of those in the anterior horn, in Clarke's column, and elsewhere, as well as some of those of the cortex, showed "axonal reaction." From the latter fact Turner is inclined to conclude that the toxins exert a specific action on the nerve-fibres primarily, the cellular changes being produced partly by degeneration of the axon, and

* Archiv. f. Psychiat. u. Nervenkrankheiten. Bd. 37. H. 1. P. 1. 1903.

^b Journal of Mental Science. Vol. XLIX. P. 673 Oct. 1903.

partly by loss of the normal sensory stimuli owing to degeneration in the posterior columns. The impairment of memory and of ideas of time and space, and the mental confusion, would thus be due partly to interruption of the cortical association fibres, and partly to blunting or perversion of peripheral impressions. The group of symptoms probably constitutes not a disease but a syndrome, which is merely "one of the manifestations of the action of alcohol and other toxins on the nervous system." S. J. Cole, who had published two previous papers on the subject, contributed some further clinical observations to the January number of the *Journal of Mental Science*^a, selecting six cases from about 30 which have come under his observation, in all of which there was a history of alcoholism, and in all but two (in which it was not excluded) neuritis. He considers the most common mode of onset to be a condition almost indistinguishable from delirium tremens, but often more protracted, on gradual disappearance of which the characteristic symptoms (amnesia, &c.) come to light. This second stage may last from a few weeks to months or years, after which there is often slight improvement, but rarely recovery; some defect of memory nearly always remaining. In one case, a general paralytic who had also been addicted to alcohol Korsakoff's symptoms were prominent, a fact which, as Cole remarks, "perhaps suggests caution in the interpretation of other paralytic cases presenting this aspect."

Upon the whole, the disease (if such it deserves to be called, which is still doubtful) seems to be mainly, though not exclusively, of alcoholic origin, and to consist of a general neuritis in which the leading part is sometimes taken by the central, and at others by the peripheral, nervous system, but in which the former is always, and the latter almost if not quite always, involved; while the prognosis, *quoad* complete recovery, is exceedingly bad. As regards the pathology, however, it is right to mention that in a case carefully examined by Cole^b, there appears to have been relatively much more degeneration of the nerve-cells and less of the fibres in the cortex than in Turner's case.

^a Vol. L. P. 83.

^b Archives of Neurology. Vol. II. P. 535.

RELATIONS OF THE NERVOUS SYSTEM TO THE MIND.

Kronthal^a reiterates his curious views in a lecture delivered before the Berlin Society for Psychiatry and Nervous Diseases. According to him, nerve-fibres are not processes of nerve-cells, but merely pass through them on their way from the sensory to the motor end-organs ; in fact there is no such thing as a specific nerve-cell, what pass for such being merely products of the blending of leucocytes, which "flow round the fibres." The action of the nervous system is therefore entirely reflex, and "what we call Mind has no causal influence as regards the reflexes, but is the sum of the reflexes themselves."

The nerve-cells generally constitute merely a mechanism whereby impulses spread to other fibres, and the more grey matter there is, the more fibres will be affected by any stimulus, and the more complex will the Mind become ; hence the large amount of grey matter possessed by the most highly endowed intellectually of the Metazoa, man. Even memory, being excited by a stimulus, is reflex. When numerous sensitive cells react too quickly, or too slowly, or irregularly, the result must be disorder of mind. This, in the first case, will take the form of mania (which is an increase in the sum of the reflexes) ; in the second, that of melancholia ; in the third, that of hysteria. Other mental disorders are due to disease of the conducting fibres themselves—for example, Korsakoff's disease when many peripheral, and general paralysis when many central, fibres are so affected. From this view it follows that the nerve-cell never originates a stimulus, that the central nervous system exercises no directing authority over the organism at large, and that there is no "seat of the mind," which is the product of every organism as a whole. It may be added that Kronthal bases his opinions "solely on the ground of the anatomical appearances of the nerve-cell," but he considers them to be supported by the number and fineness of the cerebral blood-vessels, and the consequent facilities afforded for diapedesis of leucocytes.

^a *Neurologisches Centralblatt.* Feb. 18, 1904. P. 154.

REPORT ON RHINOLOGY AND LARYNGOLOGY.

By S. HORACE LAW, M.D., Univ. Dubl., F.R.C.S.I.; Throat Surgeon to the Adelaide Hospital, and Surgeon to the Dublin Throat and Ear Hospital.

THE ÆTIOLOGY OF OZÆNA.

IN a luminous and interesting article in the *Archiv für Laryngologie*, Band 14, page 409, Dr. W. Freudenthal (New York), first recapitulates some of the old theories before explaining his views on the matter. The theories he mentions as to the causation of ozæna are as follow:—A congenital narrowing of the nose; an extra width of the nasal passage; a rudimentary predisposition of the inferior and middle turbinals. (He notes that the predisposition must mean something hereditary, but he does not understand what.) That it is hereditary; that it is infective; that it follows chronic accessory sinus disease. He goes fully into this question, and cites cases against it, one of which is that one patient had ozæna and frontal sinus empyema; the empyema was treated and cured without affecting the ozæna. Also, in some of these cases which have been examined *post mortem*, the mucous membrane of the nose has been found to be in a far greater state of degeneration than that of the accessory sinus, from which the disease was supposed to have sprung. Many authorities name as the cause of the formation of the crusts and the peculiar smell the *Bacillus mucosus capsulatus* of Abel. This the author has satisfied himself is always present in these cases.

The views of the author may be shortly stated thus:—That as we live for the most part of our lives in an artificial climate (*i.e.*, atmosphere) in our houses, and as it may easily be proved that the relative moisture of that atmosphere to the out-of-door air is much reduced, the natural result is that a drying process takes place, which in the end may tend towards the trouble under consideration. He has proved that in a large and healthy sanatorium the reduction of atmospheric moisture was on an average 30 per cent. Many other authorities have mentioned a dry and dusty air as a cause.

His next point is to compare this atrophic rhinitis to other processes, such as baldness, which he considers to be produced

by working under a strong artificial light, and attributes to the drying process, and shows how much water hair can absorb from the air, and how in women this affection is much less common owing to the fact of their wearing their hair long and loose and not coming to such an extent under the drying influences. Cerumen in the ears is also included by him in the same category. All these processes he would include under the general term "Xerasie."

His conclusions are as follow :—

1. Ozæna is an atrophy of the interior of the nose, which is produced by atmospheric influences—Xerasie.

2. The bone of the turbinals appears to have been attacked at an earlier period of the disease.

3. The results of the lack of water in the air make themselves felt at all parts :—(a) Of the interior of the nose, and forms of disease which we formerly looked upon from another point of view are properly placed here, such as perforating ulcer of the septum, anterior atrophic rhinitis, many forms of epistaxis, and so forth ; (b) on neighbouring parts of the body (scalp, ears, lips and teeth) ; (c) probably also on more distant organs.

4. In order to produce an ozæna from this atrophy a considerable invasion of a bacillus similar to Friedländer's diplococcus is necessary.

5. This invasion occurs at an early period of life, and in many cases is probably brought about by direct infection from the vulvæ.

6. Accessory sinus disease appears often as a result of ozæna.

7. As a result of above, ozæna should be considered as a genuine disease occurring on an atrophic base.

THE FINAL RESULTS OF INTUBATION OF THE LARYNX.

In the *Archiv für Laryngologie*, Band 14, page 430, Dr. Louis Fisher (New York) gives some interesting results of intubation of the larynx. He has two series of cases—one in private and the other in hospital—the one drawn from the well-to-do and the other from those who live in tenement houses. A large proportion of the cases in both series suffered from rickets. His conclusions are as follow :—

"1. All children in these statistics, which recovered, were fed by the breast.

"2. We did not find any chronic cough which we could ascribe to the wearing of the tube.

"At the commencement of my investigations I took it for granted that I would meet with a series of cases of chronic laryngitis, tracheitis and bronchitis which could be traced back to the intubation. As we know that the pressure of the tube frequently causes decubitus, one might assume that an inflammatory process would have been produced by the wearing of a tube.

"When we compare a number of children who never have been intubated with a like number of intubated ones of the same age and development, we find that the first class suffer in the same proportion from pneumonia and other infectious diseases as the children in these statistics. This speaks well for intubation, and teaches us two important facts:—
(a) The tolerance of the larynx for the canula—one of my cases wore it for 26 days, another for 30; (b) a properly-fitting india-rubber tube does not cause chronic inflammation, which can be attributed to the wearing of a tube.

"3. In all my cases I made accurate inquiries, with negative results, as to whether any catarrh could be traced to the wearing of a tube.

"4. With regard to the question of the development of the lungs and thorax, in spite of the large number of rickety children treated, no deformity of the chest could be found traceable to the insufficient oxygenation of the air due to long wearing of the tube.

"5. A very important ætiological factor is that in 90 per cent. of my first series of cases chronic throat diseases were present, such as enlarged tonsils, adenoids or chronic pharyngitis. In many cases all these pathological conditions were present together.

"6. We are then correct in assuming that chronic throat troubles render infection easier, and, as I believe, a direct connection may be said to exist between them. When the throat of a child is found to be in a normal condition, the possibility of infection is reduced to a minimum. It will, therefore, be our task so to work as to produce normal relationships, and if possible to prevent the diphtheritic infection, which is truly a serious affection."

PART IV.
MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR THORNLEY STOKER, M.D., F.R.C.S.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—SIR JOHN MOORE, M.D., D.P.H., F.R.C.P.I.
Sectional Secretary—FRANCIS C. MARTLEY, M.D., D.P.H.,
F.R.C.P.I.

Friday, February 12, 1904.

The PRESIDENT in the Chair.

President's Address.

THE PRESIDENT delivered an Inaugural Address on the subject of "Some Public Health Problems in Ireland." [It will be found at page 178.]

The Attitude of the Profession towards Modern Education, from a Physical and Mental Standpoint.

DR. R. B. M'VITTIE read a paper on this subject. He pointed out that the great progress made in Denmark, Sweden and Germany of late years was mainly due to the control exercised by the medical profession over primary education. As a man is a living and growing being, only those who had made a life study of physiology and biology were fit to be intrusted with this development, while, unfortunately, in these countries the only qualification which appeared necessary for what was called an educationalist, was a knowledge of some antiquated

classic, which, being purely abstract, tended more to arrest than to encourage orderly growth. Further, as the nerve fibres from the surface to the pyramidal cell are myelinated first, all true education must be first concrete, and the abstract should be discouraged as much as possible till the period of adolescence is fully completed, for too early a development of the psychic processes diverted the nerve energy from the control of tissue formation, which is its natural function during the period of growth.

LT.-COL. M'NEECE expressed his gratification at hearing the paper, and considered that if the principles implied in it could be practically carried out, it would be to our great advantage as a nation. He gave a personal instance of the distaste and nausea which the present system of education raised in the minds of school children, and the essentially different view of things which was taken on going to a foreign country.

The PRESIDENT reminded Dr. M'Vittie that the Irish Universities were moving towards improving education in the direction suggested by him. The Royal University had established a diploma in education, and examined candidates for the qualification. Trinity College was moving on the same lines, and lately a course of lectures had been delivered there on the subject of education. He instanced the Kindergarten as an example of the attention which was now given to the teaching of the concrete as distinguished from the abstract. He also related instances in which he had personally seen the miserable conditions amid which many of the children in Dublin were taught.

DR. M'VITTIE, in reply, said he was greatly obliged for the favour with which his paper had been received. He said that he did not sign a recent circular from London asking for the signatures of members of the profession with a view to having instruction in hygiene and temperance introduced into schools, as such instruction only meant more classes and more exhaustion of the nerve centres, which would bring a desire for stimulation. He said that in the schools in Sweden and Denmark the children were allowed to stay in one class for about forty-five minutes only, they then stood up and did exercises tending to correct the cramping from sitting down, after which they went out to the playground for some minutes. He also emphasised the necessity for children being medically examined two or three times a year.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—HENRY C. EARL, M.D., F.R.C.P.I.

Secretary—ARTHUR H. WHITE, F.R.C.S.I.

Friday, February 19, 1904.

The PRESIDENT in the Chair.

Points in the Pathology of Senile Hypertrophy of the Prostate.

MR. TOBIN remarked that whereas when he read a paper on this subject some ten years ago all the specimens were derived from the *post-mortem* room, now the operating theatres provide the material for discussion. This material usually came in two shapes; one, a smooth-faced, easily enucleated adenoma, often of large size; the other, commonly a smaller mass with a surface rough and looking like muscular tissue to the naked eye, and containing in its centre the prostatic urethra, torn portions of which, or of the membranous urethra, hang out at one end. Specimens presenting such points of identification had been looked upon as showing a hypertrophied prostate removed in its entirety. Anyhow, such, he said, was his opinion till he read what he called an epoch-making paper on this subject by Mr. Wallace in the *British Medical Journal*, January 30, 1904. Mr. Tobin then showed some recently removed specimens, which he maintained, both microscopically and macroscopically, fully bore out Mr. Wallace's contention. Among them was one which he described as follows:—"When my finger, shelling out this large adenoid, had reached its posterior surface and was still between the layers of the surgical capsule, I opened into a sac in which these calculi were lying free. They are, as you see, a hundred or so in number, varying in size from a grain of snipe shot to a swan-shot, smooth and round, except one, which is the size and shape of a bean. The received opinion is that calculi such as these develop primarily in the glandular crypts of the prostate, and that their presence in one pocket is due to an amalgamation of crypts. If this is so the opening up to these crypts while my finger was traversing the capsule, points very clearly to the composition of that envelope."

DR. DARGAN stated that the sections shown were made from the very outermost laminated layers of what seemed to be merely a fibrous envelope to the growth. They showed here and there

atrophic glandular spaces lined in many cases by cubical cells, but greatly compressed, and evidently undergoing involution. The presumption is, that these are derived from greatly compressed prostatic tissue.

The SECRETARY stated that he was quite certain that a few, at least, of the cases of senile enlargements of the prostate were true hypertrophies.

The PRESIDENT said that he agreed that senile enlargement of the prostate was of a glandular nature. He had not always been able to find glandular or muscular tissue in the fragment of tissue adhering to the prostates removed by operation. In a number of examinations he had only once found a small myoma. He mentioned a case of prostatic obstruction due to a cyst in the left lobe.

MR. TOBIN, in replying to the remarks of the President, who disputed Mr. Wallace's views, said that most of the cases that he had examined were either true hypertrophies of the prostate or adenomata in the prostate, but which did not convert it into a capsule. Mr. Tobin asked, what then of the capsule that certainly exists in all cases of senile hypertrophy? He had never failed to shell out the offending mass in such cases, but he had always utterly failed to shell out a tuberculous prostate in the operating theatre or a normal prostate in the dissecting room.

Endothelioma of the Peritoneum.

MR. L. G. GUNN showed a case of endothelioma of the peritoneum occurring in a man, aged twenty-eight, with extensive secondary growths in the lung, liver, and bronchial glands.

MR. BENNETT asked whether the primary growth had been found, as all the growths shown seemed to be secondary.

MR. GUNN replied that the most careful search for a primary lesion had failed, and, acting on the presumption that the growth had originated from the peritoneum itself, it had been labelled an endothelioma.

Implantation (Ovarian) Tumours.

MR. L. G. GUNN showed a femoral hernia, in which a distinct secondary ovarian growth had occurred. The ovarian tumour had been removed nineteen years before. The hernia had enlarged for a few months before.

DR. NEVILLE exhibited a transplantation cystic tumour from the scar of an old (five years) ovariectomy. The tumour shown

was about the size of an ordinary fist, and consisted of a congeries of small cysts, approximating twenty in number, varying in size from that of a pea to that of a large walnut. Microscopic examination showed a marked resemblance between the peculiar epithelium lining of each cyst, and that constantly found in Graafian follicles, the so-called *membrana granulosa*, specimens of which were shown. It was, of course, impossible to rely very certainly upon such a resemblance in the absence of any other explanation.

The SECRETARY found some difficulty, owing to the amount of calcification, as shown by the sections under the microscope, in believing that the transplanted ovarian papilloma had recently been actively growing, and wished to know Mr. Gunn's opinion on that point.

MR. GUNN replied that, in his opinion, most of the enlargement was due to the growth within the omentum, and not from any fresh omentum coming down into the sac.

Double-sided Dermoid Cysts.

DR. NEVILLE exhibited tumours which were removed from a patient, aged twenty-five, in the Rotunda Hospital, by the Master, Dr. E. Tweedy, and remarkable for the marked differences of the two tumours. One—the smaller one—was an ordinary dermoid, in size about that of a foetal head, and consisting mainly of two cysts, a considerable portion of the inner surface of which was lined by skin, covered with white hairs. But the larger tumour, rounded, smooth, and measuring eleven inches by eight inches, was essentially a solid tumour, presenting on section a very peculiarly variegated surface, with occasional small cysts, few of which, however, were larger than a walnut. Some of these quite small cysts were partially lined by skin and hair. The solidity and malignant appearance of the growth had at first suggested that it might prove to be a teratoma on microscopical examination. This showed, however, the general appearance of a cystic adenoma, the epithelium lining of the cysts being mostly composed of goblet cells. Sections of the skin cysts had not yet been made, but Dr. Neville was convinced that the tumour really consisted of a very unusual and very solid form of dermoid cystadenoma.

Teratoma.

The PRESIDENT showed a teratoid tumour of the ovary. It was taken from a young woman, who died with abdominal

symptoms some months after its removal. Sections taken from different parts of the tumour showed small cavities lined by epidermis, and having hairs and sebaceous glands in their walls. Other cavities were found to be lined with a columnar epithelium and glands resembling Lieberkühn's crypts opened into them. Bone, cartilage, masses of pigmented cells, adipose tissue, and tissue resembling that of the central nervous system were also found, as well as groups of ganglionic nerve cells.

Calcified Fibro-Myoma.

DR. NEVILLE exhibited a completely calcified fibro-myoma of the uterus, removed, with other non-calcified fibro-myomata, by Dr. L. Kidd, of Enniskillen. Tumours so completely calcified were certainly rare in connection with hospital practice, though not uncommonly found in connection with anatomical schools.

MR. BENNETT related a case which he saw several years ago, in which a calcified myoma ulcerated into the bladder, and was diagnosed as stone. In the attempt to remove it the patient died. The true nature of the mass was only discovered years afterwards.


The Section then adjourned.

THE SOCIETY OF MEDICAL PHONOGRAPHERS.

THIS Society will hold its Annual Shorthand Examination in May, 1904. Two prizes will be offered, each of the value of £3, one for first year Students and one for Students of more than one year's standing. The competition will be open without entrance fee to any Registered Medical Student in the United Kingdom who has not taken a first prize at one of the Society's previous examinations. Intending candidates should send in their names as early as possible and in any case before April 15th, to Dr. P. G. Griffith, Villa Molitor, Green Lanes, Hornsey, N., who will supply a detailed prospectus of the examination.

FRIEDRICHSHALL NATURAL APERIENT WATER.

WE are pleased to be able to report that this water, so highly esteemed and recommended by the medical profession, continues to rapidly reinstate itself in public favour by reason of its undoubted medicinal properties for the cure of constipation and its attendant ills. It can now be obtained of all the leading chemists, druggists, mineral water dealers, &c.



CORK MEDICAL AND SURGICAL SOCIETY.

President—J. COTTER, M.D., F.R.C.S.I.

Hon. Secretary—D. J. O'CONNOR, M.A., M.D., R.U.I.

Wednesday, February 24, 1904.

Appendicitis.

DR. H. R. TOWNSEND read notes of five cases of appendicitis operated on in the acute stage. In four cases recovery followed, while in one case, owing to the mildness of the symptoms, surgical aid was not requisitioned at an early stage, and when the operation was performed the appendix and surrounding portions of intestine were found in a gangrenous condition, and the patient died five days later. In his opinion as soon as a diagnosis of appendicitis was made, an operation should be at once advised, as there were no trustworthy means of foretelling from day to day what course the disease would take.

Surgical Treatment of Gall-Stones.

DR. T. GELSTON ATKINS read notes of a series of cases of cholecystotomy, choledochotomy, and cholecystectomy, and maintained that with the improved methods now adopted, gall-stones should be always treated by surgical means.

Puerperal Eclampsia.

DR. P. J. O'BRIEN read notes of a case of puerperal eclampsia complicated by acute sepsis, and of a similar case of eclampsia complicated by acute mania. In the first case the patient recovered after a very severe illness. In the second case the patient had to be removed to the asylum, but was at present, after two months, practically well, and was about to be discharged.

Serum Treatment of Tetanus.

DR. D. MORRISSY read notes of three cases of tetanus treated by anti-tetanic serum. In two of the cases the patients recovered. In the third case the patient, a woman, aged fifty, recovered completely from the tetanus in about a week, but sixteen days after admission to hospital was attacked by broncho-pneumonia, which proved fatal nine days later.

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS.

For four weeks ending Saturday, February 27, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending February 27, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 27.4 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, February 27, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Feb. 6	Feb. 13	Feb. 20	Feb. 27			Feb. 6	Feb. 13	Feb. 20	Feb. 27	
22 Town Districts	26.1	27.6	26.3	27.4	26.8	Lisburn -	18.2	63.7	22.7	13.6	29.6
Armagh -	20.6	34.4	13.7	13.7	20.6	Londonderry	11.3	13.9	18.9	20.2	16.1
Ballymena	28.7	28.7	9.6	38.3	26.3	Lurgan -	17.7	8.9	17.7	35.4	19.9
Belfast -	21.8	29.5	26.9	27.0	26.3	Newry -	16.8	25.2	8.4	16.8	16.8
Clonmel -	15.4	25.6	-	56.4	24.4	Newtownards	17.2	57.2	28.6	40.1	35.8
Cork -	29.5	26.7	32.9	26.7	28.9	Portadown -	20.7	10.3	25.8	31.0	22.0
Drogheda -	16.3	28.6	8.2	8.2	15.3	Queenstown	-	13.2	26.4	39.6	19.8
Dublin - (Reg. Area)	30.6	27.2	29.7	27.2	28.7	Sligo -	52.8	-	33.6	33.6	30.0
Dundalk -	27.9	19.9	16.0	55.8	29.9	Tralee -	21.1	10.6	15.9	58.1	26.4
Galway -	38.8	50.5	38.8	27.2	28.8	Waterford -	33.1	23.4	19.5	17.5	23.4
Kilkenny -	63.9	29.5	-	19.7	28.3	Wexford -	32.7	28.0	23.3	23.3	26.8
Limerick -	27.3	34.2	23.2	28.7	28.4						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, February 27, 1904, were equal to an annual rate of 1.7 per 1,000—the rates varying from 0.0 in fifteen of the districts to 5.2 in Portadown. Among the 186 deaths from all causes registered in Belfast are 2 from measles, 5 from whooping-cough, one from diphtheria, one from simple continued fever, one from enteric fever, and 3 from diarrhoeal diseases. The 39 deaths in Cork include one from whooping-cough and one from simple continued fever; and the 21 deaths in Limerick include 2 from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, February 27, 1904, amounted to 224—128 boys and 96 girls; and the deaths to 206—105 males and 101 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 28.3 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the Area, the rate was 27.2 per 1,000. During the eight weeks ending with Saturday, February 27, the death-rate averaged 29.0, and was 1.5 below the mean rate for the corresponding portions of the ten years 1894–1903.

Two deaths from measles and one death each from scarlet fever and varicella were registered, also 2 deaths from influenza. The fatalities from whooping-cough, which in the 4 weeks preceding had been 11, 9, 6, and 9, rose again to 11. Two deaths from enteric fever were recorded. This disease had, in the 4 weeks preceding, caused one, one, 2, and 3 deaths, respectively. There was not one death from small-pox, typhus, diphtheria, or diarrhoeal disease.

The total number of deaths due to tuberculosis was 34. This

number includes 5 deaths from tubercular phthisis, 15 deaths from *phthisis*, one death from tubercular meningitis, 2 deaths from tubercular peritonitis, 2 deaths from *tabes mesenterica*, and 9 deaths from other forms of the disease.

Five deaths were attributed to carcinoma, and 6 to *cancer (malignant disease)*.

Of 15 deaths from diseases of the nervous system, 6 (of infants under one year) were ascribed to *convulsions*.

There were 28 deaths from diseases of the heart and blood-vessels.

The annual rate for deaths from diseases of the respiratory system registered during the week was 7.4 per 1,000 of the population of the Area, the average rate for the corresponding week of the last ten years being 8.6 per 1,000. The total (54) includes 31 deaths from bronchitis, 2 from croupous-pneumonia, 9 from broncho-pneumonia, and 8 from *pneumonia*.

Of 4 deaths registered as being due to accidental violence, 2 of children under 5 years of age were caused by burns.

In 9 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 4 children under one year old and the death of one person aged 60 years.

Sixty-one of the persons whose deaths were registered during the week were under 5 years of age (38 being infants under one year, of whom 7 were one month old), and 61 were aged 60 years and upwards, including 24 persons aged 70 and upwards, of whom 10 were octogenarians, and 2 (females) were stated to have been aged 90 and 91 years respectively.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock

Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended February 27, 1904, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or German Measles.	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	Feb. 6	-	12	-	11	-	-	3	1	-	12	15	-	-	-	53
	Feb. 13	-	4	-	12	-	-	12	-	-	6	14	-	-	-	44
	Feb. 20	-	11	-	5	-	-	3	-	-	18	10	-	-	-	48
	Feb. 27	-	17	-	3	-	-	4	-	1	14	13	-	-	-	52
Rathmines and Rathgar Urban District	Feb. 6	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2
	Feb. 13	-	-	-	3	-	-	-	-	-	1	-	-	-	-	4
	Feb. 20	-	-	-	1	-	-	-	-	-	1	-	-	-	-	3
	Feb. 27	-	-	-	3	-	-	-	-	-	-	-	-	1	-	4
Pembroke Urban District	Feb. 6	-	-	-	1	-	-	-	-	1	3	-	-	4	9	18
	Feb. 13	-	-	-	4	-	-	1	-	-	1	1	-	12	9	18
	Feb. 20	-	-	-	-	-	-	3	-	-	-	-	-	12	14	17
	Feb. 27	-	1	-	-	-	-	-	-	-	-	-	-	12	30	33
Blackrock Urban District	Feb. 6	-	-	-	1	-	-	-	-	-	-	1	-	-	-	2
	Feb. 13	-	1	-	1	-	-	-	-	-	-	-	-	-	-	2
	Feb. 20	-	-	-	1	-	-	-	-	-	-	-	-	12	-	3
	Feb. 27	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4
Kingstown Urban District	Feb. 6	-	-	-	3	-	-	-	-	-	-	-	-	-	-	3
	Feb. 13	-	-	-	5	-	-	-	-	-	-	-	-	-	-	5
	Feb. 20	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Feb. 27	-	-	-	3	-	-	2	-	-	-	-	-	-	-	5
City of Belfast	Feb. 6	3	-	-	15	-	-	5	-	7	8	18	1	-	-	57
	Feb. 13	1	-	-	8	-	-	4	-	12	4	10	-	-	-	25
	Feb. 20	1	-	-	8	-	-	8	12	4	3	3	-	-	-	31
	Feb. 27	2	-	-	2	-	-	4	-	12	5	6	12	-	-	33

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, February 27, 1904, 4 cases of measles were admitted to hospital, there was one death, 5 patients were discharged convalescent, and 26 patients remained under treatment at its close.

Seven cases of scarlet fever were admitted to hospital, 14 cases were discharged, and 94 cases remained under treatment at the close of the week. This number is exclusive of 5 patients

still under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital, Dublin.

Two cases of typhus fever remained under treatment at the close of the week.

Four cases of diphtheria were admitted to hospital, 3 were discharged, and 19 cases remained under treatment at the close of the week.

Seven cases of enteric fever were admitted to hospital, 7 cases were discharged, and 71 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 7 cases of pneumonia were admitted to hospital, 5 patients were discharged, and 17 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, February 27, 1904, in 76 large English towns, including London (in which the rate was 16.5), was equal to an average annual death-rate of 17.5 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 21.8 per 1,000, the rate for Glasgow being 22.5 and for Edinburgh 20.4.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of February, 1904.

Mean Height of Barometer, - - -	29.490 inches.
Maximal Height of Barometer (27th, at 9 a.m.),	30.261 „
Minimal Height of Barometer (13th, at 4 a.m.),	28.620 „
Mean Dry-bulb Temperature, - - -	39.9°.
Mean Wet-bulb Temperature, - - -	38.3°.
Mean Dew-point Temperature, - - -	36.3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.217 inch.
Mean Humidity, - - -	87.4 per cent.
Highest Temperature in Shade (on 21st),	56.5°.
Lowest Temperature in Shade (on 17th),	30.0°.
Lowest Temperature on Grass (Radiation) (1st),	26.1°.
Mean Amount of Cloud, - - -	71.6 per cent.
Rainfall (on 17 days), - - -	3.312 inches.
Greatest Daily Rainfall (on 12th),	.458 inch.
General Directions of Wind, - - -	W., S.E.

Remarks.

A cold, gloomy, damp and rainy month, with a very low mean atmospheric pressure—29.490 inches—that of the week ended Saturday, the 13th, being only 29.035 inches. The rainfall of the first five days totted up to 1.467 inches. Only from the 19th to the 22nd, inclusive, was the temperature high for the time of year. The rise of temperature on the 19th was sudden and rapid, amounting to 19° in a few hours—from 31.8° to 50.8° in Dublin. The mean temperature of the 20th was 51.5° ; of the 21st, it was 51.3° . The 29th was one of the coldest days felt during this winter—the screened thermometer ranged only between 34.1° and 38.0° , the mean being 36.1° . February, 1903, had been singularly warm in Dublin, for the mean temperature was 47.5° —a record for February—or 5.0° above the average. The mean temperature of February, 1904, comes out as 40.7° , or 6.8° lower.

The duration of bright sunshine was estimated at only 43.0 hours, or a daily average of 1.5 hours, compared with 79.25 hours, or a daily average of 2.8 hours in February, 1902, and 63.5 hours or a daily average of 2.3 hours in February, 1903.

In Dublin the mean temperature (40.7°) was 1.8° below the average (42.5°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 39.9° . In the thirty-nine years ending with 1903, February was coldest in 1895 (M. T. = 34.2°), and warmest in 1869 (M. T. = 46.7°) and in 1903 (M. T. = 47.5°). In 1900 the M. T. was 37.9° ; in 1901 it was 39.2° ; and in 1902, 39.3° .

The mean height of the barometer was 29.490 inches, or 0.365 inch below the average value for February—namely, 29.855 inches. The mercury rose to 30.261 inches at 9 a.m. of the 27th, having fallen to 28.620 inches about 4 a.m. of the 13th. The observed range of atmospheric pressure was, therefore, 1.641 inches. It is a curious fact that in February, 1903, the highest reading of the barometer was recorded on the 13th, the lowest on the 27th.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 39.9° , or 2.0° below the value for January, 1904. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* \times .50), the M. T. is 40.7° , compared with a thirty years' (1871–1900) average of 42.5° . On the 21st the thermometer in the screen rose to 56.5° —wind, S.W.; on the 17th the temperature fell to 30.0° —wind, W.N.W. The minimum on the grass was 26.1° on the 1st (wind, W.).

The rainfall was 3.312 inches, distributed over 17 days. The average rainfall for February in the thirty-five years, 1866-1900, inclusive, was 1.990 inches, and the average number of rainy days was 16. The rainfall, therefore, was much above, while the rainy days were also above, the average. In 1883 the rainfall in February was large—3.752 inches on 17 days; in 1879 also 3.706 inches fell on 23 days. On the other hand, in 1891, only .042 inch was measured on but 2 days.

The atmosphere was foggy on the 1st, 9th, 10th, 11th, 16th, 25th, and 27th. The amount of cloud—71.6 per cent.—was considerably above the average—66 per cent. At 9 a.m. the mean was 80 per cent. High winds were noted on 11 days, and reached the force of a gale on 4 days, namely—the 7th, 12th, 13th, and 21st. Hail fell on the 4th and 13th. Snow or sleet fell on the 5th, 8th, 15th, 17th, and 29th. A solar halo was seen on the 6th. There was a thunderstorm on the evening of the 12th. A faint aurora was seen at 9 p.m. of the 14th.

The temperature reached or exceeded 50° in the screen on 5 days, and it fell to or below 32° on 5 nights, compared with as many as 18 nights in 1895, and only one night in 1903. The minima on the grass were 32° or less on 16 nights, compared with every night in 1895, and only three nights in 1903. The thermometer twice failed to rise to 40° in the screen (on the 15th and 29th). The highest minimum was 48.1° on the 20th.

In Dublin the rainfall up to February 28th, 1903, amounted to 5.847 inches on 36 days, compared with 5.735 inches on 50 days in 1900, 3.872 inches on 29 days in 1901, 3.362 inches on 22 days in 1902, 5.503 inches on 35 days in 1903, only .714 inch on 16 days in 1891, and a thirty-five years' (1866-1900) average of 4.220 inches on 34 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.495 inches, the highest reading observed being 30.266 inches at 9 a.m. of the 27th, the lowest, 28.690 inches at 9 a.m. of the 14th. The mean temperature was 41.0°, the mean dry-bulb reading at 9 a.m. and 9 p.m. being 40.3°. Rain fell on 18 days to the amount of 3.219 inches, .439 inch being measured on the 3rd. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 37.25, giving a daily average of 1.28 hours. The corresponding figures for January, 1904, were 45.25 hours and 1.46 hours.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 21 days to the amount of 4.05 inches, the greatest daily fall being .88 inch on the 4th. Sleet and hail fell on the 11th, 13th and 17th; snow on the 15th and 16th. There was a severe thunderstorm on the 12th. In February, 1901, the rainfall was 1.55 inches on 10 days; in 1902, it was 2.76 inches on 11 days; in 1903, it was 2.95 inches on 15 days. The temperature in the shade ranged from 30° on the 1st and 17th to 53° on the 20th and 21st. The mean temperature in the screen was 40.4°, compared with 39.0° in 1902, and 47.1° in 1903.

At Knockdolian, Greystones, Co. Wicklow, 2.957 inches of rain fell on 19 days. The heaviest fall in 24 hours was .600 inch on the 12th. In February, 1900, the rainfall was 6.670 inches on 20 days; in 1901, 1.385 inches on 11 days; in 1902, 2.590 inches on 8 days; in 1903, 2.870 inches on 14 days. The total fall to February 29th, 1904, inclusive, was 5.692 inches on 36 days, compared with 6.170 inches on 29 days in 1903, 4.450 inches on 17 days in 1902, 5.420 inches on 27 days in 1901, 10.436 inches on 44 days in 1900, 8.610 inches on 42 days in 1899, 3.980 inches on 29 days in 1898, 5.190 inches on 37 days in 1897, and only 1.940 inches on but 17 days in 1896.

The rainfall at Cloneevin, Killiney, Co. Dublin, amounted to 3.56 inches on 20 days, compared with 2.35 inches on 12 days in 1902, and 2.08 inches on 14 days in 1903. The average rainfall for February during 19 years, 1885-1903, at this station is 1.800 inches on 13.7 days. The greatest rainfall in 24 hours was .65 inch on the 12th. Since January 1 the rainfall was 5.98 inches on 37 days, compared with 4.90 inches on 35 days in 1903, 3.97 inches on 24 days in 1902, 4.39 inches on 28 days in 1901, 7.23 inches on 48 days in 1900, 6.28 inches on 36 days in 1899, 3.32 inches on 29 days in 1898, 4.31 inches on 38 days in 1897, and 1.64 inches on 19 days in 1896. The rainfall in February, 1904, has been exceeded at Cloneevin in February (which is usually the month of the lowest fall) only in 1900, when 4.41 inches fell on 23 days, and 1885, when 3.68 inches fell on 18 days.

Dr. B. H. Steede reports that the rainfall at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, was 4.408 inches on 24 days, compared with 5.929 inches on 20 days in 1900, 1.296 inches on 11 days in 1901, 2.923 inches on 10 days in 1902, and 3.096 inches on 16 days in 1903. The maximal

fall in 24 hours was .701 inch on the 26th, but .600 inch also fell on the 7th, and .590 inch on the 23rd. Up to February 29th, the rainfall at Newcastle amounted to 7.718 inches on 42 days, compared with 4.837 inches on 25 days in the corresponding period of 1901, 4.589 inches on 22 days in 1902, and 7.416 inches on 35 days in 1903. At this Second Order Station the screened thermometers fell to 31.5° on the 17th, and rose to 54.0° on the 21st.

From the Railway Hotel, Recess, Connemara, Co. Galway, Mr. A. A. Smith reports that the rainfall was 7.710 inches on 23 days, compared with 5.890 inches on 22 days in 1903, 3.196 inches on 12 days in 1902, only 1.748 inches on 11 days in 1901, and 3.786 inches on 17 days in 1900. The maximal fall in 24 hours was 1.030 inches on the 22nd. The month was generally severe, with high winds, which blew with hurricane force on the 12th and 13th. Snow fell on three days, heavily on the 14th.

At Cork rain fell on 25 days to the amount of 5.78 inches, or 2.34 inches over the average for February. The heaviest fall in 24 hours was .61 inch on the 28th. The rainfall of the first two months of 1904 has been 11.80 inches, or 3.64 inches above average.

At the Ordnance Survey Office, Phoenix Park, the rainfall was 3.296 inches on 20 days, the maximal measurement in 24 hours being .370 inch on the 5th.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that Health Resort was 41.1°, being 1.0° below the average for February during the previous 6 years. The extremes were—highest, 56°, on the 20th and 21st; lowest, 30°, on the 17th. At Bournemouth the mean was 41.2°, the extremes being—highest, 54° on the 16th; lowest, 26° on the 1st. The mean daily range of temperature was 7.3°, and at Bournemouth it was 9.1°. The mean relative humidity of the atmosphere was 85 per cent., being 3 per cent. greater than the average for the month during the previous 3 years. The mean temperature of the sea at Sandycove bathing-place was 41.1°, being the average for the month during the previous 6 years. The total rainfall was 3.01 inches on 19 days, and at Bournemouth it was 3.08 inches on 23 days. The total duration of bright sunshine was 47.1 hours, compared with 47.2 hours at the Ordnance Survey Office, Phoenix Park; 47.5 hours at Valentia, 38.4 hours at Parsonstown, 40.7 hours at Southport, and 53.7 hours at Eastbourne.

PERISCOPE.

THE LATE EFFECTS OF TYPHOID FEVER ON THE HEART AND VESSELS.

W. S. THAYER, M.D., Associate Professor of Medicine in the Johns Hopkins University, contributes to the *American Journal of the Medical Sciences* for March, 1904, a valuable clinical study on the late effects of typhoid fever on the heart and vessels. He summarises the results of his investigations as follows:—

A study of the condition of the heart and vessels in 183 individuals who have passed through typhoid fever at the Johns Hopkins Hospital within the last thirteen years has revealed the following facts:—

1. The average systolic blood pressure in these old typhoids was appreciably higher than in control observations upon healthy individuals.
2. The higher average of the blood pressure was constant in every decade.
3. In many instances among the old typhoids the blood pressure exceeded appreciably the limits of what is usually regarded as normal.
4. The radial arteries in the old typhoids were palpable in a proportion nearly three times as great as that found in control observations upon supposedly healthy individuals who had never had the disease.
5. The average size of the heart was greater among the old typhoids than in the same cases at the time of admission to the hospital; the difference held good also when the cases were classed according to age by decades.
6. Cardiac murmurs were heard with considerably greater frequency among the old typhoids and in the same cases during the attacks.
7. In eight cases where, on discharge from the hospital, the heart was considered normal, subsequent examination revealed hypertrophy, with initial insufficiency. One case showed a possible mitral stenosis; one an aortic insufficiency; one a striking general arterio-sclerosis, with hyper-tension.
8. In one case an aortic diastolic murmur was present four months after discharge, but had disappeared five months later.
9. Those patients whose pulse during the disease was remarkably rapid or irregular, showed, in general, on later examination, a blood pressure above the common average for the old typhoids. In other respects, however, their condition differed but little from the general run of cases.
10. Those cases in which a systolic murmur at the apex of the heart was observed during the attack showed later an increase in the blood pressure and in the size of the heart, as

compared both with the mean of the observations made upon the same cases on admission to the hospital and with the general average for the old typhoids. Nearly one quarter of those cases in which, during the attack, systolic apical murmurs were detected, showed, on later examination, evidences of organic heart disease. Indeed, the majority of all the cases of organic cardiac lesions among the 183 old typhoids came from this small group of 31 cases.

CHILD STUDY AND SCHOOL HYGIENE.

At the Congress of the Royal Institute of Public Health to be held at Folkestone, July the 22nd to the 27th, 1904, there will be a Section for Child Study and School Hygiene. Dr. George Carpenter has been appointed London Secretary, and Dr. Percy Lewis Local Secretary. Gentlemen desirous of contributing papers should communicate with the Local Secretary. Those anxious to attend the Congress, who are not members of the Institute, can do so by taking a delegate's ticket, price £1 1s.—*British Journal of Children's Diseases.*

LITERARY NOTE.

DR. FREDERICK J. SMITH, 138 Harley-street, London, W., has been requested by Messrs. Churchill to edit a new edition of Taylor's large work on the "Principles and Practice of Forensic Medicine." Dr. Smith appeals through our columns to the profession to send him accounts of interesting and instructive medico-legal cases that have been recently decided. Dr. Stevenson has, with the greatest generosity and kindness, placed at his disposal a rich collection of poisoning cases, so that he is more particularly anxious for other criminal reports—such as rape, strangulation, &c., &c. Dr. Smith asks that dates and references to the trial should accompany any reports sent to him.

HOW TO OPEN A BOOK.

THE physician must be a book lover. Every book in his library has a history. Although it may be out of date, yet the owner remembers some good ideas that it gave him, and cherishes it. How it does hurt to hear the thud of a good book as it falls to the floor, or to see one spread out face downward on a table, or to see a reader wetting his finger tip in his mouth to turn the leaves! The following from "Modern Book-binding" is well worth reading: "Hold the book with its

back on a smooth or covered table; let the front board down, then the other, holding the leaves in one hand while you open a few leaves at the back, then a few at the front, and so on, alternately opening back and front, gently pressing open the sections till you reach the centre of the volume. Do this two or three times and you will obtain the best results. Open the volume violently or carelessly in any one place and you will likely break the back and cause a start in the leaves. Never force the back of the book."—*The Medical Book News*, January, 1904 (Vol. II., No. 1).

ENURESIS IN CHILDREN.

In the *British Journal of Children's Diseases* for February, 1904 (Vol. I., No. 2), Dr. Percy Lewis, Honorary Medical Officer to the Victoria Hospital, Folkestone, has an interesting note on this subject. We cannot congratulate Dr. Lewis or the Editor on the misspelling "eneuresis" which disfigures the Journal. Having described the subjects of this distressing complaint, Dr. Percy proceeds to say that, if the urine is measured, it will be observed that seldom less than two pints, or nearly or quite double this amount, may be passed in the night. The urine is of very low specific gravity (1002-1005 is not unusual), of neutral or alkaline reaction, and it deposits triple phosphates or oxalates. Very frequently a trace of albumen is present. The condition then at night is one of polyuria. The amount of urine passed by day may be normal. The treatment of this complaint, which has been for some years successfully carried out by the writer, was suggested to him by the fact which he observed that infants fed on starchy foods always pass a larger amount of urine than normal. When this starchy diet is cut off the symptom disappears. It is the same with the victims of enuresis. In most cases a rigid anti-diabetic diet removes the symptom in a few days. The *cause*, however, due to a general depression of health produced by an excessive starchy diet, requires general tonic treatment at the same time. During the cure, starchy food may usually be allowed for breakfast without "accidents" occurring at night. In private cases even small quantities of bread or cake given at dinner or tea early in the treatment cause the bedwetting to recur. In three or four weeks a normal diet may again be resumed.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XV.—*Some Cases of Intestinal Obstruction successfully treated.*^a By WILLIAM TAYLOR, B.A., M.B., Dublin University; F.R.C.S.I.; Surgeon to the Meath Hospital and County Dublin Infirmary; Surgeon to Cork-street Fever Hospital.

LAST Session the subject of my communication was that of "Some Fatal Cases of Intestinal Obstruction."^b In the discussion that followed several members expressed the desire that on a future occasion I should bring forward those cases in which more success attended my efforts. This, then, is my apology for again bringing before you a subject that many will say is already worn thread-bare.

For convenience I have arranged the cases, as far as possible, into groups.

CASE I. was that of a man, aged forty-eight years, who was admitted into the Meath Hospital, under Dr. Craig's care, complaining of constipation, vomiting, abdominal distention and pain. The previous history was that of occasional attacks of diarrhœa, but increasing difficulty in getting the bowels to act

^a Paper read before the Members of the Dublin Biological Club, February, 1904.

^b Paper read before the Members of the Dublin Biological Club, December, 1902, and published in the Dublin Journal of Medical Science, March, 1903.

was the most noticeable feature. For over a week before admission the bowels had not acted, though he had taken several doses of medicine. The abdomen was enormously distended, the intestinal coils being clearly outlined. Vomiting was severe and decidedly stercoraceous in character. The Clinical Clerk administered an enema, but without any effect. Next day Dr. Craig asked me to see the man with a view to operation. On hearing the history, and looking at the man, the diagnosis of acute obstruction supervening on chronic was obvious, and its cause was easily determined on making a rectal examination. About three inches up, the rectum was blocked with a fixed mass of cancer. On getting the patient to pass water immediately before operation some bright red blood was mixed with the urine, and the patient informed me that for some weeks he had been compelled to evacuate his bladder more frequently, both by day and night, than previously. This condition pointed to implication of the bladder by the growth. The stomach was washed out, ether administered, and a left inguinal colostomy performed, the gut being opened and washed out at once. This had the effect of prolonging the patient's life for close on four months, but his condition was truly pitiable on account of the cystitis and pain in the bladder. The bladder was irrigated twice daily, but morphin had to be given in large doses to subdue the pain and give rest.

CASE II. was that of a woman, aged forty-three years, who was admitted into the Meath Hospital under my care with all the symptoms of acute obstruction. The previous history showed that on three occasions during the three previous months she had been under the care of a surgeon for similar symptoms, but not quite so severe. On each occasion, she informed me, this gentleman ordered the "Sister" to give her an enema, which acted, and in a couple of days she was again able to leave hospital. On examination the abdomen was considerably distended, the distention being much marked along the course of the colon. The vomiting was gushing and severe, but, though of a brownish colour, did not possess any faecal odour. The hernial rings were free, but rectal examination revealed a mass of cancer, which was quite adherent to the sacrum behind, and I was doubtful as to whether it was not also adherent to the uterus in front. Left inguinal colostomy was performed as quickly as possible, and the gut opened and washed out. I know

this patient was alive sixteen months after, but I then lost sight of her.

CASE III. was that of a man, aged fifty years, who was admitted under my care one night last September, complaining of constipation, abdominal pain, distention and vomiting. For several months he had had considerable difficulty in getting his bowels to act. During this time he got a few attacks of diarrhoea, which he attributed to the aperients he had taken. For six days before admission his bowels had not acted at all, while for a week before that they had only acted very slightly. The vomiting was bile-stained. The abdomen was generally distended, the distention being most noticeable along the course of the colon. The hernial rings were free, but rectal examination revealed a mass of cancer situated as high up as the finger could reach. As his condition was not very urgent a hypodermic of morphia was administered and operation postponed until the next morning, when inguinal colostomy was performed in the usual manner, and the gut opened and washed out at once. Here again in a few days we had evidence of implication of the bladder, which was then daily irrigated with warm boric lotion, while the pain was relieved by morphia. In this case the obstruction was relieved and life prolonged for about two months.

CASE IV. was that of a boy, aged seven and a half months, who was taken suddenly ill some sixteen hours previously with screaming, as if in severe pain, and vomiting. The pain seemed to come in paroxysms, with intervals between the attacks of five or six minutes, and was attended with profuse sweating; later the intervals between the paroxysms were as much as half an hour. The bowels acted soon after the onset of pain, and again on two or three occasions, the last motion containing some blood. On examination the face was pale, the lips drawn, and the eyes sunken. A tumour could easily be detected in the position of the transverse colon, and there was a well-marked loss of resistance in the right iliac fossa. Acute intussusception was diagnosed, and the abdomen opened as soon as possible, under chloroform anaesthesia, through the right rectus muscle. The intussusception, which had extended as far round as the splenic flexure of the colon, was easily withdrawn and reduced in a moment or two; there being no adhesions, the abdomen was quickly closed by through-and-through sutures. Recovery

was complete and rapid. The operation was completed in less than 15 minutes.

CASE V. was that of a girl, aged seven and a half years, who was taken ill six days before admission into Cork-street Hospital. Sudden pain, attended by vomiting, came on while at school. The bowels acted soon after. The pain continued "to come and go, though not so bad," for the next six days. She vomited occasionally only, and the bowels acted twice or three times before going into hospital. On the morning after admission I was sent for, and saw the girl lying rolled up in a bed, looking exceedingly ill. From the time of her admission I was informed she had vomited everything she was given. The temperature was between 99° and 100° , and the pulse about 140 to the minute. The abdomen was so rigid that nothing could be detected until a whiff of chloroform had been administered, when an intussusception was easily made out extending down over the left pelvic brim. The vacancy in the right iliac fossa was well marked. I had the child immediately removed to the Meath Hospital, where her abdomen was opened as soon as possible. The intussusception extended so low down that I had to get my Clinical Clerk to pass a finger into the rectum and push it up until I could get my fingers below its apex. Reduction was easily effected, the last part to be reduced, after a little expression, being the caput cæcum coli with the appendix, which latter was only about two and a half inches in length, but certainly as thick as my index finger. The appendix was removed in the usual manner, and the abdomen closed. The operation was completed in less than 20 minutes. The patient was discharged perfectly well in thirteen days.

CASE VI. was that of a little girl, aged two years, who was taken ill a few hours before admission into hospital with abdominal pain and vomiting. The bowels acted twice soon after the onset of pain, each action taking place immediately after or towards the end of a paroxysm of pain. When seen by me, about an hour after admission, except that the child looked seriously ill, with a little pale, anxious face, my examination was entirely negative. Two drops of tincture of opium were ordered to relieve the child's suffering. Next day the condition was much the same, a paroxysm of pain occasionally making the child scream out, but she only vomited once during the

twenty-four hours after admission. Examination of the abdomen both during and in the intervals between the paroxysms of pain, failed to reveal anything. On the second day after admission a swelling could easily be detected in the right half of the pelvis. Pressure upon this caused the child to cry out and the abdomen to become rigid. Under chloroform the swelling could be easily felt to be a distinctly oval-shaped mass, and this was further confirmed by placing a finger in the rectum and the other hand on the abdominal wall. I decided to explore at once, so had the child brought to the theatre and the abdominal wall cleansed. While the abdominal wall was getting its final washing I noticed that the swelling could no longer be felt, while immediately before this it was even visible. I hesitated for a moment or two as to what I should do, but knowing that the last portion of an intussusception, which I considered this to be, is often difficult to reduce, I decided to make a small incision and explore the abdomen with the finger inside, and thus make sure that everything was right. Except for a little serous fluid that escaped on incising the peritoneum nothing abnormal was detected, and the small wound was closed with three silkworm gut sutures. The facial appearance of the child after this was quite different. Her recovery was complete.

I have no doubt but that this was an example of intussusception reduced by manipulation. As regards the diagnosis, we were not unmindful of the fact that Henoch's purpura sometimes closely simulates intussusception, but there was no evidence to warrant the suggestion that this was such a case.

CASE VII. was that of a young woman, aged twenty-one years, who was taken ill five days before admission under Dr. Craig's care, with pain in the abdomen and vomiting. The bowels had not acted for two days before this attack. There was a history which pointed to an attack of peritonitis a couple of years before this. Several doses of medicine had to be taken, and a doctor administered two enemata to her, but without any other result than that of increasing her pain and vomiting. Dr. Craig, seeing that she was suffering from acute obstruction, asked me to see her with a view to immediate operation. On examination the hernial orifices were all free; the abdomen was generally distended, but slightly more so just to the left of the middle line

below the umbilicus, at which place she complained of tenderness on pressure. At this place also one could detect a distended coil of intestine on palpation. It was thought this was the most likely site of the obstruction. Rectal examination failed to reveal anything. On opening the abdomen freely through the left rectus a number of distended and congested coils protruded, and directly in the site of the previously detected tenderness the cause of obstruction was found to be a band encircling a bunch of the coils of the jejunum. Its separation was quickly effected, but in doing so a portion of the softened wall of the intestine was opened giving exit to some of its contents. This was easily closed again by a few Lembert sutures. The coils of intestines in the pelvis were found to be firmly adherent to each other and acutely angulated, so that I have no doubt if they had not been separated the liberation of the strangulated coils of jejunum would not have completely relieved the obstruction. The only trouble subsequently was a severe diarrhoea, which started some fourteen hours after the operation and continued for several days. This was the first case in which I was led to wash out the stomach after as well as before operation, as we noticed that, though the stomach had been washed out thoroughly immediately prior to the administration of the anæsthetic, stercoraceous vomiting came on just as she was being lifted off the operating table. After being put into bed I passed the tube and washed out an enormous quantity of stercoraceous material, more in fact than I had been able to wash out prior to the administration of the anæsthetic.

From the great benefit of the post-operative gastric lavage in this case and in subsequent cases I am of opinion it is a procedure which is of even greater importance than the ante-operative irrigation. To this procedure I drew your attention specially last Session.

CASE VIII. was that of a woman, aged fifty-four years, who was admitted under my care with a large umbilical hernia and symptoms of intestinal obstruction. The hernial sac was opened up, and the omentum separated from it with some difficulty, but there was no evidence of strangulated intestine. The omentum was pulled out and removed after ligatures had been applied. On passing the fingers into the abdomen, after enlarging the orifice, a distended coil of intestine was felt, and on examining

this further it was found to be strangulated by a fibrous band which passed upwards and backwards from the upper part of the umbilical orifice to the mesentery, to which it was adherent, and from which it was easily separated, thus liberating the strangulated coil. The other end was ligatured and cut off, and the wound closed. Recovery was uninterrupted.

CASE IX. was that of a spare woman, aged thirty-six years, who was admitted into hospital with symptoms of obstruction of a chronic character. Diarrhoea alternated with constipation for some months, but for some days prior to admission the bowels had not acted. There was no vomiting. Pain was complained of for some time in the right iliac fossa, and a tumour was not only easily detected on palpation, but was distinctly visible through the thin abdominal walls. A provisional diagnosis of cancer of the cæcum and ascending colon was made, and exploration undertaken with a view to removal if possible. However, on opening the abdomen the adhesions were so extensive, and the mesenteric glands so enlarged, it was considered that a palliative procedure, to obviate the inevitably acute obstruction, was the only advisable course to adopt. A lateral anastomosis was then effected between the ileum and the left side of the transverse colon. This operation gave complete relief to the obstructive symptoms; in fact, the bowels acted a few hours after operation. The patient got occasional attacks of diarrhoea during the six months that followed before her death, but there was no evidence of obstruction.

CASE X. was that of a woman, aged fifty-five years, kindly sent to me by Dr. Wallace Beatty. She was taken ill last Xmas night with abdominal pain and vomiting. This pain and vomiting continued during the night and up to the time she was seen by Dr. Beatty, who gave her husband a note addressed to me, in which he asked me to admit her into the Meath Hospital as an urgent case of intestinal obstruction. I had her admitted and saw her soon after. The abdomen was distended, but chiefly on the right side. Some distended coils could be easily palpated. The pulse and general condition were good. The hernial rings were free, and rectal examination revealed nothing of importance. An enema did not produce any effect. Though her condition was not urgent I determined to operate at once. When the abdomen was opened the cæcum and ascending colon bulged

into the wound. Their great distention rendered an accurate diagnosis of the state of things impossible, so the cæcum was incised and its contents, as well as those of the ascending colon, were evacuated. It was then seen that the cause of obstruction was a cancerous growth involving the hepatic flexure of the colon. Secondary deposits were found in the omentum and mesentery—conditions which precluded radical treatment of the stricture. The ileum was then brought across and fixed to the sigmoid flexure by means of the largest sized Murphy's button (as the quickest method). The small opening in the cæcum was previously closed by a continuous Lembert suture. The condition at the end of the operation was very good, and since that she has never had a bad symptom. The bowels acted freely on the third day, and since the fifth day have been acting daily without medicine. The button was passed on the eleventh day. The woman is now convalescent.

CASE XI. was that of a young man of twenty-two years of age, who was sent to me by Dr. Sandes from Cork-street Fever Hospital on December 27th, 1903. He was taken ill the previous evening with pain in the abdomen and vomiting. On inquiry it was ascertained that he had been drinking heavily for some time before Xmas, but his bowels had always been regular, and he did not remember ever having an attack of pain of this character prior to the present one. Dr. Sandes had diagnosed intestinal obstruction, but when I saw him, soon after admission into the Meath Hospital, I failed to detect any evidence of it. His pulse was 64, regular and strong; he had no pain whatsoever; no vomiting for several hours; the abdomen was soft and not at all distended. There was no tenderness anywhere. The hernial rings were free, and rectal examination did not give us any information. This was at four p.m. Nothing was given by mouth except very small quantities of milk and soda water. He slept all night, had not a single spasm of pain, and did not vomit once. Next morning he felt quite well, wanted something to eat, and was very anxious to be allowed up. The examination of the abdomen was entirely negative; there was no distention. Having regard to the fact that Dr. Sandes, who had seen the patient in Cork-street Hospital, had diagnosed internal obstruction, I was careful to keep him in bed, but ordered a dose of oil, which I felt certain would precipitate matters if obstruction really existed. Orders were given to have every-

thing in readiness for operation in case pain and vomiting recurred.

Some hours afterwards I received a telephone message to say the patient was in severe pain and vomiting profusely. I went across to the hospital at once and proceeded to operate as soon as possible. The cause of the obstruction was found to be the passage of a loop of the lower portion of the ileum through a hole in the right side of the great omentum; the free end of the omentum beyond had become adherent to the mesentery of the small intestine close by, and in its turn was exerting further pressure on the herniated loop. The omentum was quickly separated, and the strangulated loop easily reduced after enlarging the opening in the omentum. This opening was then closed by a couple of catgut sutures, and the abdomen closed by suturing in tiers. The stomach was washed out and the patient put to bed. Except for an attack of pneumonia, involving the upper lobe of the right lung, there was nothing in his condition to be apprehensive of. The bowels acted after a dose of calomel on the second day. He is now quite well.

CASE XII. was that of a man, aged thirty-one years, who was sent to me four weeks ago from Cork-street Fever Hospital, where he had been treated for the previous month for typhoid fever. On the night prior to being sent to me he was taken suddenly ill with pain in the abdomen and vomiting. Dr. Day saw him soon after and believing him to be suffering from appendicitis sent him to me next morning. I saw him immediately on admission, when the patient looked very seriously ill. The abdomen was slightly distended, and generally resonant on percussion. There was slight rigidity over the right lower quadrant of the abdomen. The bowels were confined: an enema had no effect. Rectal examination revealed nothing of importance. The pulse was about 120, but fairly strong. I felt doubtful as to the diagnosis, but as the aspect of the patient was that of one suffering from some severe peritoneal lesion, I opened the abdomen as soon as possible by a small incision. On dividing the peritoneum a considerable quantity of serous fluid escaped. This fact, coupled with the history of severe pain and vomiting coming on suddenly, led me to form the opinion that the case was one of intestinal obstruction. This opinion was further confirmed by the appearance of a distended coil of small intestine, while the cæcum was found to be empty. On passing my fingers

down into the pelvis I immediately detected the cause of obstruction. The abdomen was then freely opened. The cause of the obstruction was found to be an adhesion between the left side of the great omentum and some inflammatory material in the right side of the pelvis, a coil of ileum being strangulated round the adherent omentum. The omentum was easily separated, thus liberating the strangulated coil. An enlarged and softening omental gland was removed from the omentum, close to its attachment to the transverse colon on the left side. The adhesions in the pelvis were then separated, in the midst of which was found the appendix diseased. Its mesentery having been ligatured I removed the appendix in the ordinary way, after which the abdomen was closed. A small piece of gauze was placed in the pelvis where the adhesions were separated, as a couple of drops of pus were seen during the separation of the adhesions. The gauze was brought out through a small opening previously made in the appendix region. The stomach was thoroughly washed out immediately after the operation. The gauze was removed in twenty-four hours, and for about thirty hours everything went well, but about this time vomiting and hiccough of a distressing nature supervened. Examination of the abdomen showed that there was no reason to be apprehensive of peritonitis. There was neither tenderness, nor rigidity, nor pain. The epigastrium was greatly distended; indeed, the stomach seemed almost outlined on the abdominal wall. The stomach was then thoroughly irrigated, a procedure which gave great relief from the sickness and hiccough for some hours, but eventually the vomiting returned worse than ever, being this time almost black or a very dark brown colour and very foetid. The bowels had meantime acted freely, and there was no colicky pain suggestive of recurrence of the obstruction. The stomach was again well irrigated with bicarbonate of sodium solution, and orders were given to repeat the process as often as there was any recurrence of the vomiting. In all the stomach had to be washed out four times after this, with the result that the patient is now quite well. He suffered from an attack of parotitis, which lasted for three days and then subsided without suppurating.

CASE XIII.—The last case is that of a gentleman, aged seventy-one years, whom I was asked by Dr. Craig to see in Portobello Private Hospital on the 20th of last June. At that time he was suffering from a large abscess situated in the anterior

abdominal wall. Under anæsthesia it was opened, and an enormous quantity of very foetid pus evacuated. The cavity was well irrigated and its walls, which were in a sloughing condition, were as thoroughly cleaned as it was possible to do. Two drainage tubes were passed into the cavity, and the usual dressings applied. That night, for the first time for several days, his temperature was normal. His bowels were well moved by an aperient given the previous night and an enema administered a few hours before operation. On the fourth day he was so well and felt so hungry that he insisted on getting solid food; the bowels acted well during the night. The discharge from the abscess was still slightly foetid.

On June 24th—that is, the fifth day—he felt uneasy in the stomach with an inclination to sickness, vomited once, and told me he knew he had eaten too much on the previous day. Solid food was stopped and an enema was ordered.

June 25th, at 3 30 a.m., I received a telephone message to say patient was vomiting enormous quantities of black material, and was very weak. On arrival a few minutes later I found the abdomen greatly distended, the breathing very quick, and the pulse very feeble and irregular. At my request Dr. Craig was sent for, and in the meantime I proposed to wash out the stomach. The vomited material was so black that Dr. Craig and I were of opinion there must have been hæmorrhage into the stomach. The stomach tube was then passed and at least half a gallon of this black stuff removed. The gastric lavage was continued until the fluid returned quite clear. It was also seen that the irrigation had considerably reduced the distention of the upper part of the abdomen. Ten drops of adrenalin chloride were administered by mouth, and $\frac{1}{30}$ th of a grain of strychnin was given hypodermically. After some time, as there was no sign of returning sickness, two compound colocynth pills were given. An enema was ordered to be given at 8 a.m. if the bowels did not act before that time.

At 10 a.m., when Dr. Craig and I arrived, we were informed the only effect of the enema was the expulsion of some flatus, the fluid returning scarcely discoloured. The abdomen was somewhat more distended and tympanitic, especially in the umbilical and sub-umbilical region. There was no pain, tenderness on pressure, or rigidity. Patient informed us his bowels were at all times difficult to move, and that he was in the habit

of taking at least eight to ten ounces of Apenta water for a dose every morning, and insisted that we should give him that amount as he knew it would give him relief. His temperature at this time had risen to 101.6°, and the pulse was if anything more irregular and feeble. There had been no vomiting since the lavage. Only small quantities of milk and brandy were allowed.

At 8 p.m. his condition was unchanged. There was no action from the bowels. The passage of a small amount of flatus was the only effect of an enema.

June 26th.—No improvement; abdomen more distended. Outline of large intestine very distinct. No tenderness unless directly over site of abscess. No rigidity. There was still no return of the vomiting, but hiccough was distressing. The discharge from the abscess had almost ceased, and there was no fœtor. Still there was no action from the bowels. Operation was recommended, but this he refused to listen to, and demanded more medicine by mouth and another enema. An enema of warm oil was ordered, but we did not consider it advisable to give any more aperients by the mouth.

8 p.m.—General condition worse. Distention enormous and interfering greatly with respiration. The heart's action had become very irregular and weak. The temperature was about 101° F. The enema had produced no effect. We again strongly urged operation, but the patient just as firmly refused to entertain the idea. Still there was no vomiting, but the hiccough had become almost continuous.

June 27th, 10 a.m.—The only change noticed was that he seemed to be wandering a little in his mind, but he firmly declined operation.

6 p.m.—As the bowels had not acted he then said he would allow us to operate, but my impression was that he scarcely realised what that meant. Though it seemed almost hopeless I opened the abdomen by a small incision through the right rectus muscle, and tied a Paul's tube into the first loop of gut that presented. This was done as he lay in bed without any general anæsthetic. A little eucaine was injected into the site of the proposed skin incision. On incising the peritoneum some serous fluid escaped, and a coil of intestine, but whether large or small bowel I could not say, was pressed up against the abdominal aspect of the edges of the wound. The distention of the coil was so great that it was impossible to pass the finger

round it or to hook it up into the wound, but it seemed to be pressed with such force against the wound that I thought it safe enough to puncture it where it lay. The edges of the small opening made by the knife in the gut were quickly caught with forceps, and the bowel pulled forward as its contents were forcibly ejected. When sufficiently emptied to be well pulled forward into the wound, a clamp was placed on the edges of the opening and with three or four sutures the walls of the gut were fixed to the peritoneum and deeper structures of the wound. A Paul's tube was tied in with a purse-string suture, and the wound around the tube and intestine was loosely packed with gauze. A copious discharge took place through the tube during the subsequent twenty-four hours, at the end of which time the patient pulled it out. He was still somewhat delirious. Temperature 102° ; pulse unchanged. Said he felt A 1, but did not look it. Abdomen getting quite flat. The subsequent course is easily told. For three or four days he hovered between life and death, very little hope of recovery being entertained.

At 5 a.m. on the fourth morning after this we were again sent for as he was dying, but $\frac{1}{30}$ th grain of strychnin with $\frac{1}{100}$ th grain of atropin, followed by 10 m. of adrenalin chloride revived him, and from this on, except for a little bronchitis, to which he was subject, he never had a bad symptom. The bowels acted slightly in the ordinary way, and from this on were kept acting daily by glycerine enemata. The fæcal fistula closed spontaneously, and was soundly healed in six weeks. The patient is now in perfect health. He told me last week, when I met him by accident down town, that his bowels acted daily, sometimes after medicine, sometimes after a glycerine enema.

With respect to the first group of cases due to rectal cancer, I will merely state that, speaking generally, sufficient attention is not paid by the general practitioner to the attacks of diarrhœa for which in the vast majority of these cases the patient is first driven to consult a medical man. Temporising with the diarrhœa, instead of introducing the finger into the rectum, means loss of time, and only too often permits the case to drift into that hopeless condition in which radical treatment is absolutely out of the question.

The second group of cases is illustrative of what on the

whole is probably the most common cause of acute obstruction. The mortality of these cases is very high, and I believe is higher still than is shown by statistics, for the simple reason that many infants die from intussusception without the condition having been diagnosticated, or even a suspicion of such a condition having been entertained, while, on the other hand, many cases correctly diagnosticated, but operated upon too late, are never published. The majority of cases of acute intussusception ought to be recognised without much difficulty within twelve or fifteen hours after the onset. If, then, such cases were submitted to immediate operative interference in anything like suitable surroundings there is no reason why the mortality should be more than one-half what it is at present. A competent operator in an early case will not take more than 15 minutes at the outside to complete the entire procedure, and so far as my experience of operations in young children goes, it teaches me that operations are relatively as well borne by them as by adults.

Cases of intestinal obstruction due to bands, of which Cases VII. and VIII. are examples, are perhaps amongst the most satisfactory the surgeon has to treat, for very often the symptoms are urgent from the start, owing to the fact that there is generally a considerable disturbance of the circulation and nerve supply of the parts. The severity of the symptoms is almost always directly proportionate to the suddenness and extent to which the normal circulation is impeded and the innervation interrupted. Diagnosis is thus comparatively easy, and operative interference sought for while the patient is still in a fairly good condition.

On the other hand, acute obstruction due to adhesions, if these are at all extensive, is perhaps the most unsatisfactory form of obstruction to treat. The separation of the adhesions is tedious and difficult, and the operation is generally prolonged, as the result of which the patient often sinks, while, should the patient recover, the reformation of the adhesions with recurrence of the obstruction at a later date is not at all unlikely.

Obstruction due to stricture, whether simple or malig-

nant, if urgent is best treated by temporary drainage, the diseased part being subsequently removed, and the continuity of the bowel re-established. If not urgent, resection and end-to-end anastomosis give good results. If resection is impossible, and the case not urgent, a short circuiting operation should be done. If called upon to perform short circuiting again I intend to cut the ileum across, close to its lower cut end, and then fix the upper cut end into the bowel below. This will prevent any fæculent material passing into the excluded loop—a condition which might be attended by serious results.

Case XI., in which the loop of intestine passed through a hole in the great omentum, is the only one of the sort I have seen. Its treatment was both easy and satisfactory.

The last case is an interesting one. The obstruction must undoubtedly have been of an adynamic nature. Probably the inflammation spread from the abscess sac to the parietal peritoneum and involved the wall of the sigmoid flexure, thus producing some temporary paralysis, while the resulting distention above led to an acute kinking or bending of the intestine, with consequent obliteration of its lumen at that point. The salutary effect of the establishment of a temporary fæcal fistula is here well exemplified. The therapeutic value of gastric lavage for what may be termed post-operative gastric paralysis or dilatation associated with profuse vomiting, which in many cases becomes quite black, and which if not energetically treated invariably ends in death, is well evidenced in this case as well as in Case XII.

There is but one other point to which I must allude. It is that of the treatment of the distended intestine after the cause of obstruction is removed. Every surgeon knows how difficult it is to deal with this condition. A single puncture evacuates but a coil or two at most, while the passage of a soft rubber tube through this opening and running it up the lumen of the intestine to evacuate further coils is disappointing. Multiple punctures relieve the condition still more, but this procedure necessarily takes up a considerable amount of time, and we know these patients are not in a fit state to stand prolonged operations,

while, of course, large quantities of septic material must still be left behind. Recognising the benefits obtained by gastric lavage, I have been thinking for some time whether intestinal lavage could not be employed with similar beneficial results in these cases, and I have been further strengthened in this view by reading Kocher's method of treating acute septic peritonitis, in which he washes out the greater part of the small intestine. This is done by bringing out a loop of the upper part of the jejunum and making a small opening in it through which the nozzle of an irrigator is introduced. A loop of the ileum is opened low down and the whole area of intestine irrigated between these two openings. In the cases of obstruction, of course the lower opening should be made some little distance above the site of obstruction after relieving it. Such a procedure should occupy less time than multiple punctures, while, of course, all the septic decomposing contents of the intestines will be completely washed out. If such a line of treatment has been proved beneficial in septic peritonitis, it should surely prove more so still in acute obstruction, for in this latter, after the relief of the obstruction, death is almost always due to the absorption of the poisonous contents of the intestine. Prevent this by removing them completely, as can be done by irrigation, and many lives should be saved.

ART. XVI.—*Clinical Report of the Dublin (Rotunda) Hospital for Poor Lying-in Women, for the Year ending November 1st, 1903.*^a By R. D. PUREFOY, M.D. Univ. Dubl., F.R.C.S.I.; Master.

(Continued from page 255.)

MISSED LABOUR IN A CASE OF FIBROID UTERUS; SUPRAVAGINAL AMPUTATION; RECOVERY.

K. W., aged twenty-nine, 1-para; admitted February 12th. About five weeks previously, when, according to her own reckoning, she had reached full term, foetal movements ceased, and a few days subsequently the breasts became swollen and painful.

^a Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, January 8, 1904.

This sign of the death of the foetus *in utero* I regard as of much significance, though it is not mentioned in any of our text-books. On examination some sanious uterine discharge was observed; the os was dilated enough to admit one finger, but no presenting part could be reached. Ten laminaria tents were passed into cervix, and a tampon placed in vagina. When they were removed, some hours later, I was able to detect a somewhat flattened fibroid, lying chiefly to the left side, and encroaching on internal os for about one-third of its circumference, as well as half filling pelvic brim. The head could be reached at a considerable height, its descent being plainly prevented by the tumour—an interstitial myoma. The cervical canal was of unusual length, considerably deflected to the right; and the uterus was tightly moulded round the foetus, and liquor entirely absent. At no time since her admission had the patient felt any labour pains. Having regard to all the conditions present, I determined to remove the uterus, and carried out the proceeding in the usual manner, providing ample peritoneal flaps to cover the cervical stump. Recovery was entirely satisfactory.

The rarity of cases of “missed labour” may be judged from the scanty notices of them in medical literature, and this is the only instance which has come under my own observation.

CÆSAREAN SECTION.

M. R., aged twenty-four; admitted to hospital in miserable health. She had been in labour for some hours, and the head was still free above the pelvic brim. Cæsarean section was performed the day after her admission. For a few days her pulse was very rapid, but, apart from this, convalescence was uneventful. The child was in very good health at time of leaving hospital.

CONVULSIONS.

During the year twelve patients suffered from convulsions. Of these, three were ordinary epileptic seizures, and in the remaining instances puerperal eclampsia was diagnosticated.

CASE I.—C. M., aged twenty-two, 1-para; had been in labour several hours, the breech presenting, when an epileptic fit of the ordinary type occurred, and made it expedient to hasten delivery, which, accordingly, was effected, and a living child extracted. A small dose of morphin was given, and there was no recurrence.

CASE II.—S. D., aged twenty-three, 1-para ; had an epileptic fit a few minutes after delivery ; no recurrence.

CASE III.—M. C., 1-para ; delivered on October 4th at full term ; had an epileptic fit of the ordinary type on the 7th ; no recurrence.

ECLAMPSIA.

The cases of eclampsia were as follow :—

CASE I.—C. D., aged twenty-eight, 2-para ; admitted on the 11th and delivered on the 13th of August, in the eighth month. She had been in bed for some days suffering from pain in back and head, constipation and sickness. No foetal movements for three weeks. Some hours after a convulsion she was admitted to hospital, the limbs being much swollen, and the urine highly albuminous. Morphin ($\frac{1}{4}$ grain) was administered, and a vapour bath for thirty minutes. No more fits occurred, and on the following day patient delivered herself of a stillborn child. On the following day, two more fits occurred, after which the patient became somewhat hysterical, but relief and improvement again followed the injection of morphin, and the subsequent course of the puerperium was satisfactory.

CASE II.—E. E., aged twenty-seven, 2-para ; admitted May 4th, in an unconscious state, with a history of having had several fits. Her pulse was then 96, but soon rose to 110, and the temperature to 100°. The fits increased in frequency, the interval sometimes being only a few minutes ; the increase in their duration was more remarkable, some of them lasting from ten to twenty minutes, though not violent in character. The injection of morphin and other measures used had no beneficial effect, and the patient expired about fifteen hours after admission to hospital, the temperature rising to 110° just before death. The size of the uterus was that of a six and a half months' pregnancy, and the urine was highly albuminous.

CASE III.—A. F., 1-para ; admitted February 4th ; eight months pregnant ; unconscious, and suffering from frequent fits, which had begun at 4 a.m., and at time of her admission were coming at intervals of seven and eight minutes. There was apparent improvement after injection of morphin, as an interval of one hour and twenty minutes occurred, followed by two at intervals of half an hour. I then thought it wise to try the effect of bleeding, and one pint of blood was allowed to flow,

followed by the transfusion of two pints of saline solution. An hour after this was done one fit occurred, at six o'clock p.m. Digitalin ($\frac{1}{30}$ gr.) was given, and the patient's aspect improved. At seven o'clock another fit, shorter and less severe than any that preceded it, but our efforts to re-establish respiration were unavailing, and after two short gasps she expired. We were informed that she had been subject to epileptic attacks from childhood, and that at the time of quickening a convulsion had occurred.

CASE IV.—C. G., aged twenty-nine, 1-para; admitted September 11th. Two hours after an easy labour patient had a fit, and during the succeeding twelve hours, two more. The urine was very albuminous. Morphin ($\frac{1}{4}$ gr.) was given twice, followed by aperient medicine, and a satisfactory convalescence ensued.

CASE V.—B. O'N., aged thirty-five; admitted September 11th. Previous to admission patient had eight fits, and morphin ($\frac{1}{2}$ gr.) had been given. She was at time of reception into hospital comatose. A vapour bath was immediately given, but the skin did not act well. Croton oil and turpentine enemata were administered. Urine nearly solid with albumen. A long sleep followed, without any return of convulsions; the bowels were freely moved; the quantity of albumen present in urine speedily grew less, and she left the hospital soon after. She has since been safely delivered in the Extern Maternity.

CASE VI.—B. F., aged nineteen, 1-para. Patient was suffering from œdema of face and legs when admitted, but did not complain of anything. When the head was visible at the vulva an eclamptic fit occurred, so chloroform was speedily administered, and labour completed. Some hours later a second fit occurred; patient was given a vapour bath, and convalescence was soon established. The urine was loaded with albumen.

CASE VII.—K. S., aged thirty-seven, 7-para; admitted on October 6th suffering from much swelling of face and limbs and highly albuminous urine. Two days later a great headache was complained of and relieved by vapour bath. On the next day a fit occurred. Morphin was given, and another vapour bath, which again relieved, and was followed by increase in the amount of urine. She continued in somewhat the same condition for a few days, when labour set in. She was safely delivered of a macerated foetus, and made a good recovery.

CASE VIII.—J. D., aged twenty-eight, 5-para; was seen in the Extern Maternity, and was reported to have had two fits. She gives a history of several fainting fits in a former pregnancy. The patient's aspect was bad, the limbs were swollen, and there was a large quantity of albumen in the urine. The usual precautionary treatment was adopted, and she was delivered of a dead child on the day following her admission.

CASE IX.—In the case of M. F., aged thirty, 2-para, the fits were somewhat anomalous in character and in their sequelæ. Patient passed through an easy labour on March 24th, but had a rise of temperature on third day, for which a uterine douche was given. On March 29th patient had a fit, accompanied by involuntary escape of urine, and subsequently the right side of the body showed clonic movements. She regained consciousness, but talked wildly and incoherently, and tossed herself about very much. In three hours later there was another fit having very much the character of an eclamptic seizure. When coma had passed off, the right side again showed inco-ordinate movements. Hyoscin hydrobromide was given, and sleep and rest secured, followed by a normal convalescence. The urine contained pus and granular casts.

URÆMIA.

To the foregoing I desire to add the record of a case in which I believe uræmia was the cause of death, though the general aspect and condition of the patient suggest an affinity with those just recorded:—

M. O., aged thirty, 5-para; six months pregnant; had been complaining during the day (May 30th) of headache and vomiting, and about 9 30 p.m., without any convulsion, she became suddenly unconscious, and did not subsequently recover from this condition. About one hour later she was admitted to hospital in a moribund condition, respiration so failing as to need frequent stimulation, and aspect very bad. A vapour bath was tried, but sweating did not follow its use. Faradic stimulation was also tried, and then I allowed about fourteen ounces of blood to flow from her arm, and then practised transfusion of saline solution. Death followed soon after. The pulse all through remained below 100, and at first was full and of good volume; temperature remained normal. She had

been pregnant five times, and in the four preceding pregnancies had aborted at the third month. Though no oedema was observable the urine was loaded with albumen.

I have mentioned these cases somewhat in detail, as I believe their importance warrants, and because there is no obstetrical complication regarding which so much has been written and so many theories propounded. Though venesection did not benefit the cases here recorded, I think it a measure worthy of more general adoption and practice, as it is not contra-indicated by any theory ; and in the last century, when for a long period it was the almost invariable practice (chloroform and morphin being still unknown), recovery, even in severe cases, was by no means infrequent. Ample evidence of this I have found on reading over records preserved by former Masters of the Rotunda. The importance of hastening and facilitating the emptying of the uterus in these cases can scarcely be over-estimated. I am not yet convinced of the wisdom of trying to secure this object by indiscriminate forcible dilatation of the cervix.

During the earlier years of my Mastership the treatment by morphin secured such good results that our mortality was about 7 or 8 per cent. Our diminished success in later years is, I believe, mainly due to the greater severity of the cases.

MANIA.

Four patients became affected with mania ; in three it was of a mild type, and in one it was associated with paraplegia.

CASE I.—M. M., aged thirty-seven, 1-para ; passed through a short labour, lasting only eleven hours, but was quite maniacal for a short time before and during the passage of the head over the perineum. No recurrence subsequently.

CASE II.—N. L., aged twenty-nine, 1-para ; delivered naturally of a very small child after a short labour attended with some bleeding during the second and third stages. Placenta required manual removal. On the third day (pulse and temperature both normal) she became noisy and troublesome, and refused food. However, with some persuasion the food was taken, also some medicine, and in four days she was quite right again.

CASE III.—S. H., aged twenty-four, 4-para; went through an easy labour safely. Five days afterwards she became sleepless, affected with delusions and loss of sleep; refused food. Morphin was given, also hyoscin, with some benefit, and soon after leaving hospital she became quite well.

CASE IV.—M. R., aged twenty-four, 1-para; unmarried. Patient complains of loss of power in both legs, which came on gradually, with an attack of retching, three days before admission. April 26th.—She is quite unable to stand. Abdominal palpation proved to be useless owing to rigidity of muscles. April 28th.—There is incontinence of urine and fæces, and patient states she is unable to move her legs. The plantar reflex is very badly marked in both feet; the patellar reflex is well marked, and there is sensation in both legs. No ankle clonus observable. April 29th.—Patient has occasional vomiting, and can retain food only in small quantities. April 30th.—Labour has started to-day, and the pains which were very feeble before rupture of the membranes soon after increased, and in less than two hours afterwards child and placenta were born without any trouble. The rigidity of abdominal walls before observed, continued after conclusion of labour. May 1st.—No improvement in motor power. Patient complains of lancinating pains in both legs; the left plantar reflex is a little more marked, but not the right; wasting of muscles is observable. May 3rd.—Patient has a marked elevation of temperature in the evening without obvious cause. There is still incontinence of urine. May 5th.—During the night or early morning patient has had a violent hysterical attack, being very noisy and abusive in language. She has also had an hysterical fit, with muscular spasms in face and one arm, but not losing conjunctival reflex. Morphin and bromide were given. May 6th.—Patient was quiet during the night, but in the morning had another noisy fit, lasting two hours, after which she became quiet and rational. The catheter is passed twice daily and no dribbling of urine occurs. May 7th.—Refused food during early part of day, but took it in the evening. May 8th.—Has been quite insane all day; is very obstinate and refuses food; has been singing and incessantly throwing her hands about. May 15th.—Remains in much the same condition; sometimes noisy and troublesome, and sometimes refusing food; transferred to North Dublin Union.

TABLE NO. VIII.—*Prolapse of Funis.*

Name	Age	Para	Date	Period of Pregnancy	Result to Child	Presentation	REMARKS
E. C.	30	III.	July 9	Full	D.	Vertex	Forceps.
M. W.	25	V.	June 5	"	A.	"	Version; reposition, in genu-pectoral position, tried without success.
E. D.	25	I.	" 18	"	A.	"	Expression.
M. M.	42	IX.	Apr. 26	"	D.	"	Version.
A. F.	22	I.	Feb. 2	"	A.	"	High forceps.
S. L.	34	XIII.	Jan. 26	6½ months	D.	Hand & head	—
E. D.	32	VII.	" 2	"	A.	Hand and Vertex	Replacement, recurrence, expression
M. D.	30	I.	Dec. 16	7 months	D.	Breech	Anencephalic foetus and hydramnios.
N. M ^c C	32	II.	" 26	Full	A.	"	Both feet brought down
M. C.	24	I.	Sept. 6	"	D.	Vertex	Bipolar podalic version

Ten cases in all.

Prolapse of funis being a complication of labour fraught with peril to the foetus, the results of our treatment, as shown in the accompanying table, may be regarded as satisfactory.

In the cases of S. L. and M. D. the birth of a living child was not to be expected.

In the case of E. C. the head was on the perineum when the prolapse was discovered, and in the genu-pectoral position reposition of funis was effected and forceps afterwards applied. The heart was still beating at time of birth, but respiration could not be established.

In the case of M. W. prolapse immediately followed rupture of the membranes, and when reposition was tried without success, rapid delivery by version was effected.

In the case of A. F., 1-para, a large loop of cord was found

protruding from the vulva at time of admission, the head being still at brim. The os being fully dilated, the forceps was applied, rotation taking place during extraction, and a living child was born.

S. L., in her 13th pregnancy at thirty-four years of age, was admitted in the 7th month, a loop of funis, pulseless, protruding beyond the vulva, while the head and one hand could be felt just inside os. The patient was put under chloroform, and Bossi's dilator passed into cervix and expanded to 10". At this point the head easily fitted between the blades, which, by a reverse movement, were made to grasp and extract it.

M. D., 1-para, was admitted suffering much pain from hydramnios. When some pints of liquor amnii had escaped a loop of funis was found prolapsed and pulseless; labour was expedited by pressure. The child was anencephalic and affected with spina bifida.

In the case of E. D., 7-para, head, hand and cord were presenting. Membranes ruptured during examination. The hand was easily pushed up, but the cord became prolapsed, and, after an attempt to replace it, pulsation ceased. The head was then pushed up and pulsation again became perceptible, and an attempt to push the cord over brow of child was successful. As the head descended, however, another prolapse of cord occurred, but by vigorous pressure on fundus labour was completed and child easily resuscitated.

In the case of E. D., aged twenty-five, 1-para, as the head appeared on the perineum, a loop of the funis appeared in front of it. Pressure was made on the fundus, and the head delivered quickly, child being alive.

TABLE No. IX.—Cases of Contracted Pelvis.

Name	Age	Para	Pelvic Measurements				Mode of Delivery	Result to Child	REMARKS
			C. V.	Trans	Ext. C.	I. C.	I. S.		
E. F.	38	II.	8.5	10.5	—	—	—	Alive	In 8th month, Labour induced.
E. B.	37	IV. ^a	—	—	—	—	—	Alive	Labour induced.
M. K.	40	XIV ^a	—	—	—	—	—	Alive	(7th time) Labour induced.
M. C.	39	XIV ^a	—	—	—	—	—	Alive	Labour induced.
M. R.	29	II.	7.25	10	—	—	—	Dead	Labour induced.
M. Q.	26	II.	—	6.75	15.5	25	20.5	Alive	Labour induced.
T. C.	30	V.	—	—	16.5	28	25	Alive	Labour induced.
M. M.	30	VI	9.6	10.5	17.5	27	24	Alive	Labour induced.
M. C.	24	I.	7	—	—	—	—	Dead	Funis prolapsed.

^a See former Report.

CONTRACTED PELVIS.

Amongst the forceps cases were three, in which, from difficulty in delivery, some pelvic contraction seemed highly probable; in two of these narrowing of the pubic arch was observed. Attention may be directed to the two cases, M. K. and M. C., aged respectively thirty-nine and forty, both in their 14th pregnancy, and both of whom have gone safely through induced premature labour on seven occasions, a living child being secured in nearly every instance. In several of these cases I tried to start uterine action by placing tents in cervical canal and a tampon in vagina, and sometimes a tampon of gauze in cervix, but subsequently I found it necessary to pass bougies into the uterus.

Their action was supplemented by 5-gr. doses of quinine; and on many occasions by the application of the interrupted current, which seldom failed to cause pains, though not always permanent in character.

The case of M. R., aged twenty-nine, 2-para, illustrates forcibly the difficulties and uncertainty which often attend our efforts in such cases. Her first delivery was effected by forceps, and the child was stillborn. When she had reached the eighth month in the second pregnancy, on April 8th, two bougies were passed into the uterus and ten laminaria tents into the cervical canal, the vagina at the same time being lightly tamponed. In about twelve hours pains set in, and were stimulated with faradic current, and became fairly strong. Thirty hours after their introduction, tampon, tents and bougies were removed, and, as there was hydramnios, membranes were ruptured. April 10—os very imperfectly dilated. Sagittal suture can be felt close to pubis. At 11 o'clock p.m. same day, forceps was passed within cervix and traction used for half an hour, but very little descent of head or retraction of cervix was effected, and I thought it safer to desist. The next morning, April 11, the cervix was entirely retracted and the head visible on separating the labia. Even then considerable traction was requisite to complete delivery. The foetal heart was beating at time of birth, but respiration could not be established. A considerable experience in these cases has convinced me that no one stimulus to uterine action is entirely reliable; and this uncertainty as

to the behaviour of the uterus constitutes at once the chief source of danger to mother and child and of our anxiety as to the issue of the case. As I have observed in a former Report, a patient who has gone through one successful proceeding of this kind has, for this reason, a favourable anticipation which greatly helps her under similar circumstances.

MULTIPLE PREGNANCY—TWINS.

Male and Female	3
Both Male	8
Both Female	10
Both Vertex	15
Vertex and Breech	3
Breech and Vertex	2
Both Breech	1

In one instance the first child presented occipito-posterior; the second, complete breech. One compound presentation was met with (head, cord and hand). As reposition failed, podalic version was performed; both children were born alive.

Persistent occipito-posterior presentation of first twin occurred in the case of F. T., 1-para, and owing to delay forceps was applied, the os being still imperfectly dilated.

In the case of B. S., primipara, aged twenty-seven, both children presented by the breech; but the first lay so obliquely at brim that it was necessary to bring down a foot; the second was spontaneously expelled, and both were alive. The second sac was hydramniotic.

In the case of B. R., 2-para, who was suffering from mitral valve disease, some accidental hæmorrhage preceded the birth of the first child.

BREECH AND FOOTLING PRESENTATION.

During the year fifty cases of presentation of the lower pole occurred, in thirty-five of which a living child was born. Of the stillborn children, nine were macerated, six were lost owing to difficulty in delivery of the arms and head. Four were complicated by maternal hæmorrhage and eclampsia. Four of the macerated and three of the living children were delivered by natural efforts, without any assistance.

MANUAL REMOVAL OF PLACENTA.

This proceeding was found necessary in twenty-four instances. Seven of the patients were 1-paræ; six suffered from elevation of temperature subsequently, and of these one, I greatly regret to record, died of acute sepsis in two days. The history of the case is as follows:—

B. W., aged twenty-six, 1-para, was admitted on February 5th, and was delivered naturally after a labour lasting thirteen hours. When the third stage had lasted forty-five minutes, and on examination the os was found closed, two fingers were passed into the uterus, and the placenta was found to be firmly adherent to anterior wall; its removal was not attended with much loss. The patient had a swelling under the right arm in front, which ran into the axilla and down to the upper lateral margin of right breast. The swelling, though not red, was very painful. In the evening of February 6th aperient medicine was given as temperature was 103°. Some vomiting followed, but with the aid of morphin she slept, and on the morning of the 7th the temperature was 98°. She took nourishment during the day, but in the evening at 6 o'clock her temperature had fallen to 96.6°, and the pulse had become weak and rapid. At 10 o'clock p.m. she was cold and pulse imperceptible; complaining of pain in back and head; respiration 30; tongue clean; abdominal conditions normal. Strychnin was given hypodermically, followed by a transient improvement, but the patient presently became restless and difficult to manage, inclined to shout noisily. Later she got an injection of morphin with strychnin, which was followed by some rest. At 2 o'clock a.m. patient had a fit consisting of a distinct preliminary stage lasting about one minute, followed by tonic and clonic convulsions. A condition of coma ensued which lasted until death about one hour later.

While I cannot help regarding sepsis as the chief cause of the rapid and disastrous ending of this case, I confess myself unable to explain many of its details, for which I can find no parallel in my own experience. One of the patients dealt with in this section required manual removal of the placenta in all her labours—five in number.

(To be concluded.)

ART. XVII.—*Clinical Pictures of Children's Diseases*.^{*} By
W. LANGFORD SYMES, M.D., F.R.C.P.I.; Pathologist to
the Royal City of Dublin Hospital; Physician to the
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NO. XXIII.—RICKETS.

(Continued from page 272.)

DIAGNOSIS.

CLINICALLY there is no difficulty in recognising rickets; but pathologically the following bone diseases must not be confounded therewith:—

1. *Fœtal Rickets, Intra-uterine Rickets, Antenatal Rickets, Congenital Rickets*.—Here the child is born apparently rickety, and the want of ossification of bones is extreme. There are usually fractures, stunted growth, the cranial bones may be so inadequately formed that, as in a very extreme case I once saw, the head almost resembled a bladder. These cases are evident at birth, and I have known privation and illness during pregnancy and *ante-partum* hæmorrhage to previously exist. This condition is, however, one of extreme rarity.

Dr. Ashby, on June 29, 1901, read notes of a case before the Society for the Study of Diseases of Children, in which the child was the last of fourteen; the mother was forty-six years of age, and had been ill during pregnancy; the child sustained five fractures during the first fortnight, exhibited craniotabes, beading of the ribs, and during an examination at six weeks old the femur fractured, while the softened occipital bone became flattened from pressure on the pillow. Dr. Ashby quotes the interesting observation of Charrin and Gley (*Compt. Rend. Soc. de Biol.*, III., 220, 1896), who claim to have produced congenital rickets in a rabbit by injecting the parents with the toxins of diphtheria and "blue pus," and he considers that these cases of so-called fœtal rickets resemble osteoporosis rather than true rickets. The presence of craniotabes here would make me agree with Dr. Ashby, and regard the case as not one of true rickets.

^{*} These short essays have been dealt with mainly from the clinical aspect of the subject, as practical acquaintance with these diseases is much needed by senior students. They are based on original observations as recorded in my own case-books.

2. *Achondroplasia; Chondro-dystrophia Fœtalis* (sometimes spoken of as *fœtal cretinism*); *Dwarfs*.—This was at one time confounded with the above and with true rickets. It is different from both. In achondroplasia, the deformity, which is extreme, is due to dwindling and arrest of development of the shafts of the long bones. The limbs are consequently remarkably shortened and stunted. The condition persists through life if the child survive its early infancy, for many such dwarfs are stillborn or die soon after birth. We sometimes see achondroplastic dwarfs in the street as adults of extremely diminutive stature, some of whom have been exhibited for profit. These dwarfs have usually a broad, large head, protruded tongue, and thick, short limbs. The thyroid gland is present, and there is often a division or divarication between the middle and ring fingers. The change originates in the early months of foetal existence, and consists in a universal absence, arrest, or perversion of normal ossification throughout the entire skeleton during intra-uterine life. The arms and legs are peculiarly short, the epiphyses enlarged, the bridge of the nose is depressed; they walk with a waddling gait and a lumbar lordosis. The intelligence is unaffected, and hence they differ from cretinism as well as from rickets.

3. *Osteomalacia or Mollities Ossium* is quite a different disease, and really has no resemblance to rickets. Here we have to deal with progressive decalcification and softening of bone which has already fully grown. It has no connection with rickets, but attacks the fully-formed skeleton and produces fearful deformities. It occurs sometimes during pregnancy, when the deformities of the pelvis may be extreme and present insuperable barriers to parturition. Multiple fractures also occur in the long bones (*fragilitas ossium*), which break with the greatest ease.

4. *Osteoporosis, or "Pseudo-Rickets,"* is a condition of extreme sponginess or porousness of the bones, produced by a rarefying osteitis, thus differing from the disease we are considering. Here the hard basement substance of the previously formed bone is absorbed and replaced by cellular and fibrillar tissue.

5. There is sometimes doubt as to whether the condition of a child is due to *congenital syphilis* or to rickets. Of course

it is possible, and not at all uncommon, to have both diseases present (*cf.* case of the boy T. H., cited above). Congenital syphilis will be known by the presence of snuffles, usually a rash on the buttocks, a history of premature births or miscarriages in prior conceptions, or the early deaths of previous new-born children. Craniotabes is commonly present; frequently an enlarged spleen; scars and cicatrices may be seen around the mouth, the relics of intra-uterine fissures. So-called syphilitic rickets is merely rickets grafted on to a previously syphilitic infant.

6. *Splenic Anæmia of Infants*, or "Battersby's* Disease," may possibly simulate rickets; but with this disease rickets is commonly present also, and the anæmia, blood changes, hæmorrhages, and cedema are sufficiently characteristic to stamp the accompanying enlargement of the spleen and rickets with peculiar association.

The *duration* of rickets entirely depends on the stage at which the physician discovers it, and the efficiency of his treatment. If unnoticed it often commences at three or four months old, and persists, if the child survives its complications, till by the third year the bones have become permanently deformed, and the disease incurable. On the other hand, if observed early a few weeks of sound, prompt treatment will arrest its progress, and persistent care entirely prevent its recurrence. It is distinctly progressive, and constant watch must be kept on the child to prevent its insidious return. If untreated it terminates often in early death from some complication or intercurrent malady. If the child survive, deformity will result from the bone disease, and as ossification will occur late when an animal diet is reached, incurable distortions result. If properly managed in the earliest stage it can be completely arrested, and will terminate in perfect health.

The chief *complications* of rickets are those connected with

* This disease was first depicted by Dr. Francis Battersby, Surgeon to the Institution for Diseases of Children, Pitt-street, Dublin, who published his careful observations in the *Dublin Quarterly Journal* of May, 1849, as "Tumefaction of the Spleen in Children." It was subsequently described by Gee in 1867 as "Simple Splenic Cachexia;" by Wood, 1871, and von Jaksch, 1888, as "Pseudoleukæmic Anæmia." It is also termed "Primary Splenomegaly." It is the analogue of Banti's disease, or the splenic anæmia of adults.

the chest and the nervous system. Numbers of children who die from bronchitis and broncho-pneumonia are the subjects of rickets. The presence or absence of rickets is a most vital point in the prognosis of chest diseases in infancy and childhood. Whatever chances a healthy child may have in a severe pulmonary affection, the rickety child is deprived of them. Feeble respiratory power, deformity of the thorax, concomitant respiratory obstruction from adenoids, enlarged tonsils, or laryngismus stridulus, and the collapse of the lung, which is often present, combine to oppose his recovery. Thus rickets becomes indirectly one of the most potent causes of death in young children. If there were no rickets infant mortality would be greatly reduced. Convulsions carry off a considerable number of rickety children, and laryngismus stridulus and tetany are frequent complications. Gastro-intestinal troubles and chronic diarrhoea are also powerful factors in aggravating the disease, and many cases are rapidly swept away in hot weather by an acute intestinal infection. The deformities which result from neglected cases predispose to secondary troubles, but are rarely sufficient to directly cause a fatal ending.

If the physician gets hold of the case sufficiently early in the disease, and before irreparable changes have taken place in the bones, skilful and prompt treatment will warrant a favourable prognosis; but if the bones have become permanently distorted, and the chest deformed, even the useful measures of the orthopædic surgeon cannot give the child a healthy chest, and no remedy can restore the stunted frame.

TREATMENT.

The treatment of rickets may be safely summed up in the following indications:—

- I. Animal food.
- II. Fresh air and baths.
- III. Tonics.

I. *Animal Food*.—There being no doubt as to the cause of rickets we should have little difficulty in arresting it. The substitution of a vegetarian for an animal diet is as certain to produce rickets as the administration of suitable animal food will check it. This must be clearly recognised, and although defective sanitation markedly aggravates the disease,

some of the worst cases may be seen in the castles of the rich. Starchy and vegetable foods must be at once eliminated from the diet, and fresh, suitable animal food given in its place. In young infants under twelve months the milk mixtures of the child must be most carefully prescribed. The milk must be of first-rate quality, of suitable fatty and proteid consistence, and properly prepared, so that a nourishing food is administered. Chief in the prescription of food will come the proportion of fat, and rickety children require a large amount of cream. Proteid must also be high, but fat is all-important. An abundance of cream must be incorporated with the milk—as much as the child will digest. For poor people who cannot obtain cream other substitutes will be found. Butter added to the bottle of milk and well shaken upsuits admirably. Cod liver oil, fresh bone marrow, or rich gravy from fatty meats are also excellent means of administering fat. They may be incorporated with the child's milk. Whey and cream are sometimes nicely taken, but the whey must merely be regarded as a watery diluent of the cream, and no dependence placed upon its nutritive properties, for it possesses none. It is merely water and sugar. In some cases I have been led to believe that whey had a directly mischievous effect on infants' nutrition, and I have discarded it in favour of water. However, with cream it may be occasionally tried. Gravy and fresh meat juices are perhaps the best of all remedies in rickets. Red gravy exuding from freshly cooked meat, and the juice of raw or semi-cooked beef cannot be surpassed for excellence in improving the nutrition of the child. He should have some in every feed, or if he is on a good, nourishing milk mixture, which has abundant proteid and fat, the gravy and meat juice should be given several times a day as an extra. Two or three teaspoonfuls of freshly-prepared beef juice may be given to a young infant three times a day. Chicken broth, beef-tea, or other animal broths, eggs, minced fresh meat, sieved and pulped, must be given when the suitable age is reached, but whatever the age of the child be, the first and main indication is ANIMAL FOOD.

II. *Fresh Air and Baths*.—The child should be out daily in sunshine and fresh air. Lightly and loosely, but warmly, clad; every freedom must be given to the full play of the

thorax in respiration. Sea air has a particularly beneficial effect, and those seaside places should be chosen where there is a maximum amount of sunshine, with bracing ocean air. In summer time, Margate and Scarborough in England, or Portrush, Kilkee, and Bundoran in Ireland, are typical of the best and most suitable climates. In winter, more sheltered, yet sunny, places must be selected, but if the indications of sunshine and ocean air are kept in view there are numerous possibilities in the British Isles.

Salt baths are none the less useful. Even when the child cannot be sent from home daily douchings of salt water, of suitable temperature, as the seasons vary, are amongst the best remedies. A salt douche after the daily bath and good friction is an admirable means of giving tone to the muscles and vascular system, and frequently checks the sweating in a satisfactory manner. There are many sea salts in the market at a reasonable price. It must be remembered that young children do not always bear cold water well. Hot rooms must be forbidden, and an open window insisted on in all nurseries.

III. *Tonics*.—If animal food and fresh air, with salt baths, are properly given, there is little need for drugs. Cod liver oil is a food really, and an excellent means of giving fat. It may be given regularly. Lime water has long had a reputation as a cure for rickets far beyond its merits. It has no effect upon the disease. By virtue of its alkalinity it is often added to milk to prevent firm clotting in the stomach and aid its gradual coagulation in small masses. It contains only gr. $\frac{1}{2}$ of lime to the fluid ounce, and is quite useless in the cure of rickets, but if required medicinally to correct acidity or diarrhoea it is best to give from 5 to 15 drops of the liquor calcis saccharatus.

A useful prescription is the following, and I have found it help in the arrest of the disease, but even here drugs must take the third place, and whatever virtue the prescription has is mainly due to the cod liver oil :—

R. Calcii phosphatis, -	- gr. 1.
Liq. calcis saccharat., -	- m 5.
Emulsionis olei morrhuae -	5i.

put into the child's bottle of milk three times a day.

Preparations of bone marrow may also with advantage be given. Arsenic is sometimes of great use, and may be combined with syrup of iodide of iron, Parrish's food, or syrup of the lactophosphate of calcium and iron.

Some authorities advocate the use of phosphorus in rickets, and Concetti (*Allg. Wien. med. Zeit.*, Jan., 1903) suggests a special preparation of phosphorated oil, in which the phosphorus is completely suspended. As accidental poisoning has occurred from the administration of phosphorated oil, owing to the defective solution and precipitation of the drug, his directions for its manufacture might with advantage be adopted. Trousseau and Kassowitz have also recommended this treatment.

The complications of rickets must be treated on special lines, but in all cases the above indications must be complied with to cure the disease which underlies them, recollecting firstly and mainly animal food.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on March 24th, 1904, the following gentlemen, having passed the necessary examinations, were admitted Fellows of the College :—John Evans Hadden Bennet, M.B., C.M., County Cork ; Arthur William Stark Christie M.B., Ch.B., Edinburgh ; Owen Gilmore, L.R.C.S.E., Edinburgh ; Harold Edgar Atheling Jackson, M.R.C.S. Eng., L.R.C.P. Lond., Victoria, Australia ; Alfred Dudley Eskell Kennard, M.R.C.S. Eng., L.R.C.P. Lond., Hampton Wick, Middlesex ; William Lloyd, L.R.C.S.E., London, W. ; Maitland Bodley Scott, M.R.C.S. Eng., L.R.C.P. Lond., Bournemouth ; Harry Moss Traquair, M.D., C.M., Edinburgh. Daniel John Cunningham, D.C.L., LL.D., M.D., D.Sc., Professor of Anatomy in the University of Edinburgh, was also elected a Fellow of the College without examination. The Medal and set of books forming the "Bathgate Memorial Prize," presented to the College by Colonel William Lorimer Bathgate, in memory of his late father, William McPhune Bathgate, Fellow of the College, was awarded to Miss Helen Meldrum McMillan, 1 Fingal-place, Edinburgh, for the highest marks obtained in competitive examination in *Materia Medica* and *Therapeutics*.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Manual of Operative Surgery. By SIR FREDERICK TREVES, Bart., K.C.V.O., C.B., LL.D., F.R.C.S.; Sergeant Surgeon-in-Ordinary to H. M. The King; Surgeon-in-Ordinary to H.R.H. The Prince of Wales; Consulting Surgeon to the London Hospital. New Edition. Revised by the Author and JONATHAN HUTCHINSON, Jun., F.R.C.S.; Surgeon to the London Hospital; Examiner in Surgery, Royal Army Medical Department. With about 450 Illustrations. In two Vols. Cassell & Co., Ltd. 1903.

SINCE the appearance of the first edition of this work, in 1891, very considerable changes have been made in operative surgery, necessitating the publication of a second edition. Advances during the past few years have been noticeable in the region of abdominal surgery.

As the same order has been followed in this edition as in its predecessor it is, therefore, to the second volume we must look for the greatest changes.

Volume I., which is devoted to general principles, amputations and operations upon arteries, nerves, bones, joints and tendons, has not been neglected in the process of revision. An excellent description of the Hartley-Krause method of removal of the Gasserian ganglion is given, but in the enumeration of the special instruments required we think the sharp and blunt hooks used by Horsley are preferable to the sharp and blunt tenotomes recommended.

Volume II. is devoted to plastic surgery, operations on the neck, abdomen, genito-urinary organs, rectum, head, spine and thorax.

As was to be expected most changes are to be found in the sections devoted to the surgery of the alimentary tract, especially the stomach, and the biliary passages. Though fairly representative of the position of the surgery of the present day still we must confess to a disappointment, especially in connection with the surgery of the stomach.

The revision is not as well done as we expected it would have been. This defect is more noticeable with respect to the illustrations. Most of the plates illustrative of pylorotomy for cancer are taken from Billroth, and in our opinion are worthless, as they give but a false conception of what the operative technique for cancer of the pylorus is as practised at the present day. What surgeon would make his section through the stomach walls in such close proximity to the neoplasm as we see indicated in Fig. 407? Surely it would have been better to have discarded all those plates and have substituted for them such plates as are to be found in the last edition of Kocher's *Operative Surgery*, illustrative of his method of operating for pyloric cancer—a method representative of the modern surgery of this affection.

The surgery of the ureter is conspicuous by its absence—a very remarkable omission. The description of the radical cure of umbilical hernia is, in our opinion, very defective. In connection with the surgery of cancer of the rectum when describing the different methods of dealing with the divided ends of the bowel after the growth has been resected, no mention is made of the method of Moulonguet—a procedure which we believe to be of immense value in every case in which it is possible to carry it out, and it can be carried out in a considerable number of the cases one operates upon.

The letterpress errors are on the whole few.

The same excellent practical information, with which all the writings of Treves abound, is to be found in almost every page of the two volumes; but in our opinion the greatest defect in the work is that of illustration. The illustrations are not by any means sufficiently numerous for a work of this kind, while several of those which are given, as we have already mentioned, are out of date.

The work, we have no doubt, will be sought after, and rightly too, by every operating surgeon.

The Mechanism of the Paroxysmal Neuroses. By FRANCIS HARE, M.D. Sydney: W. E. Smith. 1903. Pp. 33.

IN this series of papers, reprinted from the *Australasian Medical Gazette*, Dr. Hare considers the class of disorders

termed by Liveing paroxysmal neuroses, the most important of which are migraine, asthma, epilepsy, gastralgia and functional angina pectoris. He thinks the close relationship and alternation of these disorders is apt to be overlooked owing to the specialism of the present day: "Migraine and epilepsy tend to pass into the domain of the neurologist; asthma is claimed by the chest physician or rhinologist; angina pectoris is assigned to the physician who makes a special study of the heart; gastralgia to him who concerns himself especially with disorders of the digestive organs, and so on."

The author's design is "without entering on the question of primary causation, to consider the commonest paroxysmal neuroses, with a view to determine to what extent they are inter-related as regards their mechanism."

During the paroxysms an extensive vaso-constriction is observable, especially in the cutaneous vessels of the extremities. To obviate the rise of general blood pressure, which would be caused by this vascular constriction, a compensation is found in vaso-dilation of some other region, or by some modification of the heart beat, such as slowing or feeble action.

It is contended that in the paroxysmal neuroses the vaso-motor disturbance is essential; that the vaso-constriction is primary, and "that the phenomena peculiar to each neurosis are determined for the most part by the correlative vascular or cardiac condition, whether this consists of vaso-dilation, of inhibition of the heart beat, or of both."

In migraine the proximate cause of the pain is vaso-dilation in the pericranium or dura mater; in asthma in the bronchial mucous membrane, and in angina pectoris in the coronary vessels of the heart.

In epilepsy the steps in an attack are thus summarised:—

"1. Vaso-constriction, causing rapid rise in general blood pressure.

"2. Cardiac inhibition, causing sudden fall in general blood pressure.

"3. Sudden cerebral anæmia, causing unconsciousness and tonic spasm.

"4. Recommencement of the heart-beat, causing rise in general blood pressure, and returning cerebral circulation.

"5. Relaxation of tonic spasm; clonic convulsions.

"6. Re-establishment of blood pressure and cerebral circulation; cessation of all convulsion.

"7. Sleep, recuperation of exhaustion and damage."

In all these neuroses, then, the common mechanism consists in a widespread vaso-constriction, more or less compensated by a localised area of vaso-dilation, or by cardiac modification. This common mechanism will explain the not very infrequent hybrid cases, whose clinical features partake of two or more of the separate neuroses. Several examples of such compound cases are quoted where the symptoms are combinations of those of migraine and asthma, migraine and angina, migraine and epilepsy, asthma and epilepsy, epilepsy and angina.

As a physiological paradigm, or model, of what takes place in the neuroses, a study is made of menstruation, which is looked on as a dilation of the uterine and pelvic vessels to compensate an extensive constriction in the vessels of other parts.

Basing his recommendation on the above theory, the author advises a more extensive employment of amyl nitrite in the neuroses than has hitherto been customary, and gives some clinical evidence in support of his view.

It has been impossible for us to do more than state in the barest outline the main features of the theory put forward in these papers. For the ingenious arguments adduced in support of the theory we must refer our readers to the work itself. No one who reads it can fail to be struck with the clearness and vigour with which the writer states his case, and with the large amount of highly-suggestive matter which he has marshalled in support of his thesis.

But, after all, it seems to us the puzzle is as great as ever. What causes the initial constriction? Why does the dilatation take place in one part in one case, in another part in another case? Why does vascular dilation, which often occurs to an extreme degree quite painlessly, give rise at other times to the agony of migraine or of angina?

That the author has pushed his theory too far in the case of menstruation there can be little doubt, for this process is certainly something more than a mere passive congestion of the uterine mucous membrane. Still his papers are well

worth reading and full of instructive and interesting matter, and as such we cordially recommend them to the attention of our readers.

Memoranda on Infectious Diseases; for the Use of School Teachers. By JAMES W. ALLAN, M.B. Bristol: John Wright & Co. 1904. Pp. 23.

A USEFUL little booklet, containing the obvious symptoms which ought to attract the attention of teachers. Very properly nothing is said about treatment; that is left for the medical attendant. The only fault we can observe is the omission of "mumps."

Manual of Operative Surgery. By H. J. WARING, M.S., M.B., B.Sc. (Lond.), F.R.C.S.; Assistant Surgeon, Lecturer on Surgical Anatomy and Demonstrator of Practical Surgery, St. Bartholomew's Hospital; Consulting Surgeon to the Metropolitan Hospital; Member of the Board of Examiners, Royal College of Surgeons, England. Second Edition. Illustrated with 472 figures. Edinburgh: Young J. Pentland. 1904. Pp. 659.

Six years have elapsed since the first edition of this manual appeared, but even in that short space of time surgery has made considerable advances, more especially abdominal surgery. It was necessary then that the author should revise his work so as to keep it abreast with modern requirements. The same order is followed in this edition as in its predecessor. The number of pages is almost identically the same, but the type used is smaller, so that though the volume if anything is somewhat smaller in size than its predecessor, it contains fully one-fourth more, if not one-third more, readable material. The manual now before us is virtually a new one. As a hand-book of operative surgery for students or general practitioners, it well maintains the standard of the first edition. The description of each operation is divided into stages, each of which is clearly and concisely described, and we can cordially recommend it to those for whom its author intended it.

We should not, however, fulfil our duty if we failed to

draw attention to a few points which, in our opinion, require further attention on the author's part, and somewhat detract from the merit of the work.

Why should the term "Gastro-colostomy" be used? No surgeon in his senses would dream of performing such an operation.

Though the author himself may prefer anterior Gastro-enterostomy to the posterior operation of von Hacker, still, as the vast majority of surgeons perform the latter operation, we think a short description of this procedure should surely be given. Then, again, why should the author recommend the employment of interrupted sutures in the performance of this operation? This must very considerably prolong the procedure and thus increase the shock.

The only methods of removal of the rectum described are the perineal and that of Kraske. No mention is made of the vaginal method in females, or the more formidable, but, nevertheless, none the less important, method of removal by the combined abdominal and perineal routes. In dealing with the bowel after removal of the growth, no mention is made of Moulonguet's method of invaginating the upper end into the anal canal after denuding the latter of its mucous lining, the method which, in our opinion, promises the best results where it is capable of being carried out. The last point to which we would draw attention seems to us to be the most extraordinary omission of all, especially as the operation is so extensively practised at the present, and created so much discussion in the journals recently. We refer to prostatectomy. The only mention of this operation is to be found on page 202, where three lines are devoted to it.

Lectures, chiefly Clinical and Practical, on Diseases of the Lungs and the Heart. By J. A. LINDSAY, M.D., F.R.C.P. (Lond.); Professor of Medicine, Queen's College, Belfast; Physician to the Royal Victoria Hospital, &c. London: Baillière, Tindall & Cox. 1904. Pp. 447.

PROFESSOR LINDSAY has succeeded in giving us a valuable work, which fully deserves the two adjectives which in the

title he has attributed to it—viz., “clinical” and “practical.” The style of many of the lectures reminds us of the hospital physician, instructing his class, and writing up on his black-board, as he goes along, modes of examination, or lists of symptoms, or tables of differential diagnosis. No space is wasted by writing merely for the sake of writing: everything is concise and to the point. Hence it becomes a pleasure to read Dr. Lindsay’s work: it is so different from that diffuse and discursive style which is so sadly prevalent among writers on medical topics, especially on the other side of the Atlantic.

Much of this work is more or less elementary in its nature. The modes of the examination of the heart and lungs, together with physical signs, normal and abnormal, are described at considerable length; but in other parts of the work the author discusses matters which are the subject of considerable controversy, such as the treatment of pneumonia and the value of the Schott baths and exercises. On such questions the opinions which he enunciates are characterised by sound caution and common sense.

The first two chapters are on the subject of the examination of patients in general, and the interpretation of history in disease. Then there are two chapters on the physical examination of the lungs and pleura; we do not remember to have met with so excellent and complete an account of the phenomena to be noticed in the chest. We must, however, protest against the use of the term “dry” râle. Dr. Lindsay, indeed, says “dry” in this connection does not mean “dry,” but only “less moist.” We hold that it is absurd to apply the term “dry” (even with a mental reservation) to any sound which is produced by air bubbling through fluid. All râles are moist sounds, and rhonchi are dry sounds, and we find that it leads to confusion in the minds of students if this distinction be not adhered to. Also, we are not quite clear that the slight dulness and enfeeblement of the respiratory murmur, so commonly met with at the end of a case of pleural effusion when all the fluid has been absorbed, are wholly due to thickened pleura. We think that, in part at least, these phenomena may be due to the lung not having fully

expanded, and, therefore, being unable to admit air in the normal degree.

After a chapter on pleurisy, the subject of phthisis is treated at some length. Dr. Lindsay discusses the climatic treatment in a very practical and fair-minded manner, and to make his views more clear, mentions a number of types of this disease and the localities to which he would advise that each should be sent. He utters a timely protest against the excessive feeding in vogue at some sanatoriums.

The other chapters on the lungs relate to some rarer forms of pulmonary disease, and to some therapeutic problems.

The second part treats of the heart; the physical examination of the vascular organs is discussed at considerable length. Then there are chapters on disorders of the cardiac rhythm, on diagnosis and on prognosis in cardiac disorders, and on treatment, in all of which the subjects are treated in an eminently concise and practical manner. For example, in the chapter on treatment, the views of many writers are alluded to, but Dr. Lindsay never fails to make us feel that it is he himself who is the responsible author.

We can warmly recommend these Lectures.

An Atlas of Illustrations of Clinical Medicine, Surgery and Pathology, compiled for the New Sydenham Society. Fasciculus XVIII. Eruptions, &c., caused by Arsenic. Urticaria Pigmentosa. Illustrations of the Phenomena of Leprosy. London: The New Sydenham Society. Agent—H. K. Lewis, 136 Gower-street, W. 1903. Folio.

THE eighteenth Fasciculus of this very valuable Atlas is particularly rich in clinical and pathological material. Plates A. to G., inclusive, contain fifteen illustrations of the results of arsenical poisoning. They are from photographs taken during the epidemic of poisoning from arsenicated beer at Manchester in 1901, and have been reproduced, by permission, from the original account of the same by Dr. Ernest Septimus Reynolds, F.R.C.P. Lond., Assistant Physician to the Man-

chester Royal Infirmary, and Visiting Physician to the Manchester Workhouse Infirmary.

In the introductory statements which precede the plates, the editor, Mr. Jonathan Hutchinson, F.R.S., again insists on the ætiological influence of arsenical poisoning in herpes zoster, pigmentation of the skin, keratosis, and cancer. He advances the novel theory that chimney-sweepers' cancer is probably due to chronic arsenical intoxication. "It is well known," he writes, "that the soot of English coal contains much arsenic, and it is well established that those whose occupations bring them much into contact with it are liable to changes in the state of their skins from which those who are exposed to purely carbonaceous forms of soot are free. The skin of the English chimney-sweeper becomes harsh and dry, and liable to corneous indurations which pass into cancer."

The second section of this double Fasciculus illustrates urticaria pigmentosa and allied affections. Whenever an eruption, which has begun as a crop of urticarious wheals, persists for many months or years, and tends to become of a yellow or brownish tint, the designation is justified. The condition was first described by Mr. Edward Nettleship in 1869, and was afterwards carefully investigated and given a name by Dr. A. Sangster in 1878. To the earlier stages of the affection, Mr. Hutchinson says that such terms as *Urticaria perstans*, *U. perstans-papulosa*, *Lichen urticatus*, *Prurigo perstans*, *Urticaria hæmorrhagica* might very possibly seem applicable. "Might," "very possibly," "seem"—this succession of permissive terms illustrates a defect in Mr. Hutchinson's writings which we have often deplored. Surely it is at once puzzling and unscientific to apply the three terms, "*urticaria*," "*lichen*," and "*prurigo*," to the same skin-affection.

The third and last section of this Fasciculus presents a notable series of illustrations of that truly awful disease—leprosy. Mr. Hutchinson defines it as "a long protracted, often fatal, but self-terminable bacillary disease, in which the peripheral nervous system and the skin are chiefly affected and loss of sensation, muscular paralysis, erythematous tumefaction of the skin, and acroteric necroses are the usual phenomena." Several of the illustrations are chromo-lithographs. Among the most striking of the plates are those

which show the fusiform enlargement which the nerve trunks undergo in leprosy. They are taken from the fine Atlas on Leprosy which was published more than fifty years ago by the Scandinavian observers, Danielsson and Boeck.

La Cure Solaire de la Tuberculose Pulmonaire à Nice.

Par le DR. J. MALGAT. Nice : Imprimerie Spéciale du "Petit Niçois," 17 Avenue de la Gare. 1903. Pp. 118. With Charts.

THE great amount of sunshine with which Nice is favoured has long since earned for it a noteworthy position amongst health resorts. It remained, however, for a local physician to endeavour to investigate the chemical and luminous intensity of the solar rays at that station, and to apply their great power directly to the treatment of phthisis. Five times daily for a period of two years Dr. Malgat has estimated the intensity of sunlight, using for his purpose the photometer of Decoudun, an instrument constructed to enable photograpers to calculate the exposure necessary when using extra-rapid plates.

His results are shown in the twelve charts which are added to his work, and which reveal a degree of intensity of solar light at each season of the year to which we, of less favoured climes, are unaccustomed. From the luminous intensity of the solar rays he assumes their chemical value.

He recounts the discoveries of Bacteriology as to the microbicidal action of white light and actinic rays, and describes some experiments which he made to prove the penetration of the chemical rays through the body. These experiments seem to us inconclusive, as the effects produced on the plates may have been caused by other emanations than those which he was considering.

His experiments on the penetrability of solar rays through textures of various materials and colours are also described. He finds that white textures (except those of silk) permit the passage of the greatest number of chemical rays.

Finally he submits his method of treatment by direct insolation on the bare chest of the consumptive, describing

his clinical observations and the results obtained from the treatment.

His methods are as follow :—Each morning at 10 30 or 11 o'clock, when the sunshine enters the sick room, he exposes the patient in such a manner that the sun's rays fall directly on the bare skin of the chest. The subject is so placed that his head is in the shade, that he is sufficiently removed from the external air, and that he is protected from sudden changes of temperature.

At the outset the luminous intensity is estimated by means of the photometer, and the temperature in the sun is noted, for on these factors the duration of the insolation depends. Too much exposure produces hæmoptysis.

Dr. Malgat's experience leads him to state that when the photometer indicates an "exposure" of $\frac{1}{4}$ or $\frac{1}{8}$ of a second the patient may be subjected to the treatment for 50 minutes, or even an hour; that when it attains to $\frac{1}{2}$ of a second, one can allow 30 minutes; but that when it reaches $\frac{1}{12}$ or $\frac{1}{16}$ of a second, one would not, without imprudence, exceed 20 minutes. A sun temperature of 40° C. and over necessitates especial care, while when it is below 37° C. the insolation may be more prolonged.

In some cases in which the site of infection is definitely localised he uses a modification of Finsen's compressor to concentrate a beam of light on the pulmonary lesion while direct insolation of the rest of the chest is taking place. If much wind enters the window while the treatment is in progress the patient wears a light vest of white flannel, through which the rays pass with facility. Such is briefly his method.

As regards results, Dr. Malgat does not state that his treatment is a panacea or a specific; he claims for it that it is rather a weapon of offence and defence, microbicidal and tonic, to which no other can be compared. He relates his experience of eight cases treated by this method. Seven of these were greatly benefited, while one improved remarkably while being treated. After twenty exposures this patient, with her phthisical husband, returned to service, became re-infected, and died.

It seems to us that Dr. Malgat speaks too readily of these cases being "cured." Their condition was doubtless greatly

improved, but they have still to stand the test of time—indeed some of the cases were under treatment as lately as the summer and autumn of 1903.

Dr. Malgat recognises the risk of re-infection and emphasises the necessity of their maintaining rigorous hygienic precautions, but one justly or unjustly suspects that he has been led to regard disappearance of symptoms as proof of cure.

At the same time, Dr. Malgat is to be congratulated on such success which has so far been obtained from his method, and we trust, at a future time, he may let us know the subsequent history of these cases, and the results obtained by further experience of the attractive method of treatment which he has adopted after much laborious investigation.

Diseases of the Gall-bladder and Bile-ducts, including Gall-stones. By A. W. MAYO ROBSON, F.R.C.S.; Hunterian Professor of Surgery, 1897, 1899 and 1903, and Vice-President, Royal College of Surgeons of England, 1902; assisted by J. F. DOBSON, M.S. (Lond.), F.R.C.S.; lately Resident Surgeon to the General Infirmary, Leeds. Third Edition. London: Baillière, Tindall & Cox. 1904. Pp. 485.

SINCE the appearance of the first edition of this work, in 1897, many changes and modifications in technique, as well as numerous advances in the pathology of the diseases of the gall-bladder and bile-ducts, have to be chronicled. It is not surprising then that the 150 pages which were sufficient in which to detail the features, ætiological, pathological, symptomatic, diagnostic and operative, of the diseases of the gall-bladder and bile-ducts and gall-stones have now had to be expanded to well over 300 pages. All recent advances have been carefully chronicled, and the various conditions described are illustrated by details of numerous cases, both from the author's vast experience and from the literature of this subject. We can see that Kehr's unrivalled experience is largely utilised, as well as the works of Courvoisier, Naunyn, Mayo and others. An unusually bulky appendix of over 150 pages contains a short synopsis of each of the author's 539 cases. The author's mortality in simple cases has almost reached vanishing point—only 1.06 per cent.; while, indeed, in complicated cases

such as phlegmonous cholecystitis, gangrene of the gall-bladder, &c., the mortality is very small—only 2.7 per cent.

In cholecystectomy for diseases other than malignant the mortality has been 6.2 per cent., but when cancer is included it has been 14.3 per cent. The author's present mortality for choledochotomy is now only 1.9 per cent.

We can cordially recommend the work as embodying everything up-to-date in connection with the subject. It should be in the hands of every operating surgeon.

Natural Mineral Waters : their Properties and Uses. Eleventh Edition. Revised and Enlarged. London: Ingram & Royle. 1904. Pp. iv + 61.

THE enterprising firm of Messrs. Ingram & Royle, of East Paul's Wharf, 26 Upper Thames-street, London, have lately issued the eleventh edition of a very handy guide to the natural mineral springs at home and abroad. Within the short compass of 61 pages a vast amount of information has been rendered available for the use of members of the medical profession. All necessary particulars, including analyses of the home and foreign natural mineral waters, will be found in the pages of this unpretending pamphlet, given in a condensed form, and evidently reliable.

We observe, with regret, that no Irish mineral spring is mentioned in what is otherwise a very complete and reliable guide to British and Foreign mineral waters. Perhaps Messrs. Ingram & Royle will see their way to supply information about Lisdoonvarna, Lucan, Dunkineely, Mallow, Leixlip, and other Irish spas.

Golden Rules of Dental Surgery. By CHARLES W. GLASSINGTON, M.R.C.S., L.D.S. Ed. Bristol: John Wright & Co. 1904.

THIS small waistcoat-pocket edition is pregnant with excellent advice and admonition for the dentist; the author has given suggestions upon just those salient points which arise in practice. Most of its contents are well worth perusal; perhaps treatment of "headache independent of dental origin," given on

page 56, is a little out of place. We note the etymologically correct spelling of "rhizodontropy" on page 16—not found in all dental manuals.

The hints to medical men on pages 65, 66 are excellent. May they bear fruit.

Doctors and their Work ; or, Medicine, Quackery, and Disease.

By ROBERT BRUDENELL CARTER, F.R.C.S. ; Knight of Justice of the Cross of the Hospital of St. John of Jerusalem in England ; Consulting Ophthalmic Surgeon to St. George's Hospital, and to the National Hospital for the Paralysed and Epileptic. "J'ay faict ce que j'ay voulu ; tout le monde me reconnoit en mon livre, et mon livre en moy" : *Montaigne*. London : Smith, Elder & Co. 1903.

IN this handsome octavo of 316 pages the author gives a most instructive and interesting summary of the principal personal impressions which the experience of a prolonged and extensive professional experience has left on his mental and moral vision. Both the external and internal aspects of the volume bear strong testimony to the writer's taste and general culture. It is tastefully bound, beautifully printed, and delightfully written. Every sentence merits careful and thoughtful perusal ; the author has very evidently written much of his heart into the work.

In his short and graceful preface he tells us—after referring to the unreasoned, and so often groundless, "faith in certain doctors, or in certain so-called methods of treatment, or in certain so-called remedies, for which the faithful would be unable to assign any foundation in reason, in evidence, or even in probability," which is one of the plagues of the everyday practice of every enlightened and conscientious medical man—that, with regard to the genesis of the volume before us : "It has been the aim of the writer, in the following pages, to bring about a better understanding of medical objects and methods than now commonly prevails ; and to show patients in what way they may best co-operate with their physicians for the attainment of ends which both classes are bound to regard as of primary importance—the relief of suffering and the prolongation of life."

The text of this volume is divided into fifteen chapters, of which the first, very naturally, is "Introductory," and the last, quite as appropriately, is devoted to "Medical Women." We must not wait to particularise regarding the aim and substance of the various chapters, as every sentence is worthy of the attention of every true lover of his profession. The style and diction bespeak the cultured scholar of the older school, who represents a rapidly diminishing type; the tone is that of an ardent and high-minded lover of his profession; the dignified experience and benevolent advice unmistakably testify the authorship of a truly "grand old man" of his generation and calling.

Having expressed so high a degree of unqualified admiration we must, before closing our short notice, point out that the single spot in the jewel which gave us some temporary pain was the misrepresentation of the medical degrees of the Dublin University. But as we find that the mistake has already been directly pointed out to the author we will pursue it no further than to indicate its existence.

We believe that, even in the twentieth century, an author hailing from the other side of the English Channel finds it difficult to divest himself of a mythological idea of the general inferiority of Hibernian institutions, and of the intelligence connected therewith.

Contributions to Practical Medicine. By JAMES SAWYER, Senior Consulting Physician to the Queen's Hospital, Birmingham. Fourth Edition. With many Revisions and Additions. Birmingham: Cornish Bros. 1904.

As the present is the fourth edition of a volume of essays of which the original issue appeared in 1886, there can be no second opinion regarding the high place which the contents have secured in general professional estimation. Accordingly, its present position may be regarded as secure from the effects of attempted detraction on the part of a critical reviewer. In the preface to the present edition Sir James Sawyer informs us that "every word has been revised, and such corrections and additions have been made, especially as to diagnostic precision, therapeutic details, and magistral

formulæ for prescriptions, as have been suggested to me by two more years of busy consulting work." Still we incline to think that the dictional accuracy of some sentences, or groups of sentences, would bear further revision, with prospect of improvement. For instance, the sixth essay in the volume opens thus: "Floating kidney is a substantial reality. . . . Its existence has been established by *post-mortem* examination in *numerous instances*. An opportunity of verifying, or of correcting *post mortem*, a diagnosis of floating kidney *occurs very rarely*. The malady is *not a fatal* one. It is *not a frequent* one." The italics are, of course, ours. We suggest that they indicate a certain amount of carelessness in the fusion of the several items of information—possibly even a deficiency of solubility in the various ingredients. To our mental eyes the mixture appears to be by no means a homogeneous one.

Saunders' Year-Book of Medicine and Surgery. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery: Drawn from Journals, Monographs, and Text-Books of the leading British and Foreign Authors and Investigators. Collected and arranged, with critical editorial comments, under the general editorial charge of GEORGE M. GOULD M.D. Medicine. London, Philadelphia, New York: W. B. Saunders & Co. 1904. 8vo. Pp. 673.

THE position of "Saunders' Year-Book" is now thoroughly well established in the literature of Medicine and Surgery. It is one of the most reliable helps to the busy practitioner in every region of the globe in which the English language is known, who conscientiously endeavours to keep himself abreast of the rapidly but very tortuously progressive wave of physical knowledge. He can never hope to examine a thousandth part of the original contributions for himself; and a great waste of time it would be if he successfully tried. But he has here placed before him, and within arm's length, the concentrated essence of the medical wisdom of the past year. The functions of exploration, sapping and mining, selection, filtration, and fractional dis-

tillation of the constituents of the medical journalism of the past annual cycle have been carried out under the discriminating and indefatigable supervision of the general editor, Dr. George M. Gould, who must surely be—"tropically" speaking—a physical and intellectual Briareus! There are few, if any, members of the present generation of medical men to whom his brethren have—voluntarily or involuntarily—become so largely indebted; for he supplies them year by year with the best available mental pabulum at the most moderate price, and in the most digestible form. And he has also supplied them with the best existing Medical Lexicon to secure its complete peptonisation!

Burdett's Hospitals and Charities, 1904. Being the Year-book of Philanthropy and the Hospital Annual. By SIR HENRY BURDETT, K.C.B. London: The Scientific Press. 1904. 8vo. Pp. 1123.

It is sufficient to call attention to the appearance of the 1904 edition of this useful work, which has been carefully brought up to date. In the preliminary chapters new information will be found, as well as a careful review of the chief questions relating to charitable institutions of all kinds, which either press for settlement or are engaging the active attention of the managers of such institutions.

Shall we appeal in vain to the author to see that in future issues this book is not marred by the insertion of a long list of his other works after the preface? It wears the aspect of self-advertisement, which is regrettable in an author who has done so much for hospitals, and so well earned the gratitude of the medical profession.

Among Dublin Hospitals, the Drumcondra Hospital, the National Maternity Hospital, Holles-street; the Throat and Ear Hospital, and St. Vincent's, have not furnished the information which was asked of them. St. Vincent's and St. Michael's Hospital, Kingstown, apparently refuse to give any information to Sir Henry Burdett. Why is this?

PART III.

SPECIAL REPORTS.

REPORT ON PUBLIC HEALTH.*

By SIR CHARLES A. CAMERON, C.B., M.D.; D.P.H., Camb.; M. and Hon. F.R.C.P.I.; F.R.C.S.I.; F.I.C.; Ex-President, Hon. Dip. Public Health, and Professor of Hygiene and Chemistry, R.C.S.I.; Vice-President and Ex-President of the Royal Institute of Public Health, and of the Society of Public Analysts; Medical Officer of Health for Dublin; Hon. Member of the Hygienic Societies of France, Belgium, Paris, and Bordeaux, the Academy of Medicine, Sweden, and of the State Medical Society of California, &c.; Examiner in Sanitary Science, Royal University of Ireland; Member of the Army Sanitary Committee, &c.

HEALTH OF THE ARMY.

THE Report of the Army Medical Department for 1901 has just been published. It contains some interesting information, and a reference to some of its contents will not be out of place in a Report on Public Health. The average strength of the regular army (European troops) in 1901 was 196,796 warrant officers, non-commissioned officers and men. The death-rate was 7.7 per 1,000, which was not one-half the death-rate of the general population. The admissions to hospital were in the ratio of 87.9 per cent. of the "strength" of the army. 4.36 per cent. were, on the average, always ill. The average sick time to each soldier was 18.91 days, and the average duration of each case was 21.73 days. The constantly sick per 1,000 troops were 27.96 in Scotland, 43.7 in Ireland, and 44.49 in England.

About one-half of the cases of illness amongst soldiers is

* The author of this Report will be glad to receive any books, pamphlets or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

due to venereal diseases. As regards these diseases, Dublin has for many years past had a bad pre-eminence.

The following shows the admission rates for all the venereal diseases in 1900 and 1901:—

			Rates per 1,000 of Strength.		
			1901	1900	
Dublin	-	-	193.8	214.1	
Belfast	-	-	165.8	94.4	
North-Eastern	-	-	158.2	105.2	
Home (London)	-	-	151.1	132.2	
Western	-	-	144.4	140.6	
Woolwich	-	-	126.6	153.9	
Salisbury Plain			126.0	119.9	
Channel Islands	-	-	125.1	156.2	
Southern	-	-	112.4	82.3	
Thames	-	-	82.8	85.7	
Scottish	-	-	81.4	65.1	
Curragh	-	-	80.9	57.3	
South-Eastern	-	-	72.5	62.0	
North-Western	-	-	74.4	63.1	
Aldershot	-	-	69.8	84.4	
Cork	-	-	68.9	51.9	
Eastern	-	-	67.8	65.4	
			1900	1901	1891-1900
England and Wales			102.8	92.7	165.5
Scotland	-	-	84.4	65.1	114.6
Ireland	-	-	120.3	103.8	139.3

The diseases must have been less severe in Scotland, for in the decade ended in 1900 the constantly sick were in the ratio of 7.37 per 1,000 of the strength in that country, whilst the rate in England and Wales was 14.2, and in Ireland, 11.38. Soft chancre was the cause of 988 admissions, and 71.04 were constantly ill, equal to ratios of 9.8 and 0.7 per 1,000 strength. In England and Wales the numbers were 690 and 52.12, in Scotland 19 and 1.18, and in Ireland 279 and 17.4.

As regards gonorrhœa, it is stated that 4.2 per 1,000 of strength were constantly ineffective owing to this disease.

As regards scarlet fever, there were 450 cases, or in the ratio of 4.5 per 1,000 of strength. It is remarkable that only 4 of the cases terminated fatally, or less than 1 per cent.

Measles caused one death out of 378 cases.

Enteric fever cases admitted to hospital numbered 157, and 39 of them had a fatal issue. The case mortality was extremely high, and more than double the rate amongst the civil population. Soldiers, too, are not at that period of life at which enteric fever is most likely to prove fatal. 17 cases of the disease occurred in Dublin.

Diphtheria caused 2 deaths, though there were 72 admissions of cases of that disease. This low mortality is as strange as the high one in the case of enteric fever. Amongst the civil population the case mortality in diphtheria is in excess as compared with the army. Influenza caused only 5 deaths, although the cases numbered 2,328. Tubercular diseases caused 94 deaths; there were 496 admissions to hospital. A death-rate of 0.71 per 1,000 is lower than the rate in the population at large, though, on the whole, the average age of soldiers is that at which tubercular diseases are most frequent.

Only one death from small-pox occurred in 1901. The average annual number of cases of this disease admitted during the decade ended in 1900 was only 3.

In the period 1891-1900 the death-rate from diseases of the circulatory system was 0.41 in England and Wales, 0.42 in Scotland, and 0.32 in Ireland. The chief form of disease was disordered condition of the heart.

As regards diseases of the respiratory system the rates per 1,000 of admissions and deaths in 1891-1901 are as follows:—

	1891	1901
England and Wales -	56.7	1.23
Scotland -	46.6	1.27
Ireland -	56.5	0.98

In reference to the admission of cases to hospital in the various districts, it would appear that in Dublin the admissions per strength were highest. In 1901 the average strength of the Dublin garrison was 6,043 men; 965 of them were admitted to hospital. Of course, as some of them were admitted more than once the number 965 applies to cases, not individuals. The death-rate was 7.94 per 1,000. The number constantly sick was 51.32.

As regards admissions to hospital, the Curragh comes next to Dublin, its number being 882.8, but its death-rate was only 3.57. The highest rate of admission to hospital was in the Southern (England) District—namely, 8.45, or 0.11 in excess of Dublin. The lowest death-rate—3.27—was in the Channel Islands.

It sometimes happens that persons die, and yet no reason why they should die can be, or at least is, discovered. In 1901 no fewer than 543 soldiers, with “no appreciable disease,” shifted off their mortal coil.

Nearly one-third of the soldiers serving in the United Kingdom in 1901 were under 20 years of age. Out of 100,811 soldiers, 62,510 were under 25 years of age. We have truly a youthful army! Only 2.7 per 1,000 of them died, whilst 5.89 per 1,000 of the others were claimed by death. The rate of mortality increased with age up to the class between 25 and 30, when it attained to the figure of 16.71. Beyond those ages the rate fell to 14.85. It is rather remarkable that there was no striking relation between age and invaliding. Under 20 years the rate of invaliding was 28.94 per 1,000; from 20 to 25 years, 76.7; from 25 to 30, 68.67; from 30 to 35, 56.62; from 35 to 40, 47.25; and from 40 years upwards, 71.54.

The average strength of the European troops serving in India in 1901 was 60,838 warrant and non-commissioned officers and men. The admissions into hospital were 1,104, and the deaths 13.12 per 1,000. These figures were below the average and indicated an exceptionally good condition of the health of the troops. The death-rate was 3.17 per 1,000 at ages under 20, 11.21 at from 20 to 25, 13.28 from 25 to 30, 14.64 from 30 to 35, 14.17 from 35 to 40, and 40 and upwards 42.79.

It is curious that in the troops who were under one year in India there was the high mortality of 18.09 per 1,000, whilst in the class whose services were from 1 to 2 years the mortality was only 6.3 per 1,000. Yet, notwithstanding the higher mortality of the men of shorter service, 30.47 per 1,000 of them were invalided, as against 48.49 per 1,000 of the longer service men. Whilst the mortality was three times as great amongst the longer service men, their admis-

sions to hospital was only 50 per cent. greater. Enteric fever accounts to some extent for the high mortality of the short service men. It caused a death-rate of 6.66 per 1,000, whilst in the classes from 1 to 2 years' service men the rate was only 3.4 per 1,000. The rates amongst the other classes were as follow:—2 to 3 years, 5.48; 3 to 4 years, 3.9; 4 to 5 years, 2.64; 5 to 10 years, 2.12; 10 years and upwards, 0.73. No explanation is given why the mortality rate of the class over 1 to 2 years should be more than twice as great as that in the class under 1 year, whilst the men with from 2 to 3 years' service should have a rate nearly equal to that in the first class (under 1 year). Perhaps the 2 years' men might have for the greater number been quartered in stations in which there was a high enteric fever death-rate. The death-rate from enteric fever was 3.32 per 1,000, but the admissions to hospital were only 12.8 per 1,000. What a terrible case mortality!

Malarial fevers are the scourge of European troops in India. They, however, rarely terminate fatally, though their effects are often of long continuance. There were 18,217 cases of these fevers in 1901, or in the ratio of 299.4 per 1,000 soldiers. The deaths, nevertheless, only numbered 35, or 0.58 per 1,000. How different the statistics of these diseases are from those of enteric fever!

Cholera caused only 12 deaths, small-pox 3 deaths, plague 1 death. No cases of scarlet fever, measles, or whooping-cough are mentioned.

The following shows the death-rate in the army at home, in the Colonies, and the dependencies:—

	Rate per 1,000			Rate per 1,000	
	1901	1891-1900		1901	1891-1900
United Kingdom	4.71	4.51	Western Africa	53.19	40.00
Gibraltar	4.17	4.02	Mauritius	9.32	12.96
Malta	6.90	8.61	Ceylon	14.10	8.94
Egypt & Cyprus	15.04	12.84	China	10.76	12.33
Canada	10.14	3.91	Straits Settle-		
Bermuda	12.82	7.62	ments	8.02	6.97
Barbados	20.81	7.93	India	13.12	16.14
Jamaica	20.45	12.04	On board ship	9.27	8.12

As regards recruits, it would appear that in 1901 21,522,

or 28.04 per cent., were rejected as unfit for service. This was an increase of 12.30 as compared with the previous year. Of the English recruits 29.977 per cent. were rejected; of the Irish, 28.731; of the Scotch, 25.905; and of foreigners and Colonials, 24.827.

The highest rate of rejections was in the case of the "labourers, servants, husbandmen, &c.;" it was 30.719 per cent. In the case of manufacturing artisans (cloth-workers, weavers, lace makers, &c.) it was 30.582; mechanics engaged in occupations favourable to physical development (smiths, carpenters, masons, &c.), the rate was 27.027. Shopmen and clerks were rejected at the rate of 29.496; and those engaged in professional occupations (students, &c.), had a moderate rate of rejection—namely, 19.418. It is to be regretted that the classification did not also distribute the recruits into two classes—country bred and town bred. I have a strong opinion that the deterioration of the physique of the population which has taken place in recent years is mainly due to the great increase of the urban population and the stationary or declining populations of rural districts. Nearly one-half of the population of England and Wales reside in towns of more than 50,000 inhabitants, and not above one-fourth in purely rural districts. It is evident that on the whole country people must have a better physique than the residents in large towns, on account of the nature of their work and their environment. A larger proportion of them is engaged in occupations likely to develop their physique, and, as regards purity of air and other favourable conditions for healthy existence they are better situated than the residents in densely populated towns.

The chief causes of rejection were deficiency in height and weight. Compared with the previous year, the proportion of recruits between 5 feet 3 inches and 5 feet 4 inches in height per 100 had increased by 17 per cent. Out of 54,214 recruits only 14,241 were over 5 feet 7 inches in height. It must, however, be noted that 10,000 of the recruits were under 17 years of age, but of these 118 were over 5 feet 7 inches. 9,112 of the recruits were in weight 140 lbs. and upwards.

It is a significant fact that the boys in the Hibernian Military School, Phoenix Park, Dublin, have been during the last 30 years declining both in weight and height. In that period the average height of the boys has declined 0.8 inches and 7.5 lbs. in weight. I attribute this not to any local conditions, but to a hereditary cause; the boys are children of parents whose physique has declined.

LEAD-POLLUTED WATER.

In these countries the State has done less in encouraging original scientific research than most of our Continental neighbours. Lately, however, the Government have shown an increasing interest in this subject. It is in regard to departments of science which have a bearing upon the Public Health that the Government have shown the most liberality in the way of pecuniary assistance. For some years past the Supplements to the Annual Report of the Local Government Board of England have contained valuable original contributions to physiological chemistry, bacteriology, ætiology of zymotic diseases, water supplies, &c., which have a more or less bearing on the status of health and disease. Volumes I. and II. of the Supplements to the Report of the Board for 1900-1901, 1901-1902 deal exhaustively with the subject of moorland waters in regard to their action on lead. The research was carried out by Dr. Alex. Cruikshank Houston.

Volume I. deals with the nature of the waters found on moorland gathering grounds in Lancashire and Yorkshire, and similar to many moorlands in Ireland. From these gathering grounds many large towns, such as Blackburn, Barrow-in-Furness, Rochdale, Leeds, Sheffield, Huddersfield, &c., obtain their supplies of water.

Dr. Houston ascertained that moorland waters are usually rich in peat, and that most peat is invariably acid, as is also the water draining from it. Acid peaty water dissolves lead, the amount of lead dissolvable being chiefly due to the degree of acidity. Moorland spring water is neutral, and often possesses slight alkaline properties. It may, therefore, sometimes help to neutralise the acid properties of peaty surface water. Neutral water has no

appreciable effect on lead. Sometimes, but rarely, water draining from rocks rich in iron pyrites may contain sulphuric acid and have lead-dissolving power. During dry weather, especially when long continued, the water in moorland streams is almost invariably neutral. On the contrary, in wet weather and during storms the water is usually acid. The supply of "storm" water is often very great, millions of gallons entering the water reservoirs. Dr. Houston considers that the acidity of the peaty water is associated, to some extent at least, with the presence of acid-producing bacteria in the peat. He found that certain microbes isolated from the peat possessed the power of rendering acid a sterile or neutral decoction of peat. The acid peaty waters dissolve not only bright lead, but also coated—i.e., oxidised—lead.

Any water not containing inhibitory substances having dissolved oxygen may erode lead by forming an oxy-hydrate of that metal. But this is not so dangerous a power as that of actually getting the lead into solution. Hard waters neither dissolve nor erode lead. Dr. Houston's method of testing the lead eroding powers of waters is briefly as follows:—A perfectly clear bright surface is got on a strip of lead 1 inch by $1\frac{1}{2}$ inch; this is placed in a test tube 6 inches by $\frac{3}{4}$ inch and 10 cubic centimetres of the water added. In the case of hard waters the metal becomes covered with a bluish white film, the water remaining transparent. In the case of most neutral distilled waters a milkiness first forms on the metal, diffuses itself throughout the liquid, and afterwards is deposited as a white layer at the bottom of the tube.

In 1887 Mr. Power, now Medical Officer of the Local Government Board, suggested that there might be a biological origin of the acidity of moorland water. Dr. Houston's elaborate bacteriological investigations justify his statement that "the inscrutable behaviour of soft moorland waters in regard to fluid-solvent ability may be related to the agency, direct or indirect, of low forms of organic life."

The remedial measures to prevent lead-dissolving water from exercising its injurious power is to neutralise its free

acid. This can be accomplished by adding sodium carbonate to it in such proportion as to cause the water to acquire the faintest degree of alkalinity. Filtration through a mixture of lime and sand, with subsequent addition of a little sodium carbonate to ensure alkalinity, has also been suggested.

(To be continued.)

ST. PATRICK'S ANTI-TREATING LEAGUE.

THE Rev. John J. Rossiter, M.SS., of Enniscorthy, Co. Wexford, has forwarded to the Editor a copy of the rules of this admirable Society. All true Irishmen must deplore the ruin of health and the loss of life which intemperance yearly inflicts upon the people of Ireland. One insidious and baneful custom which fosters intemperance in this country is treating in public-houses. To "treat" means to pay for alcoholic beverages for an acquaintance to drink in a place where such intoxicants are sold. A Member of St. Patrick's Anti-treating League promises:—*First*—Not to take a treat from another, or to give one himself in any place where drink is sold, whether public-house, bar, hotel, sheebeen, &c. *Second*—Not to be guilty of the sin of intemperance himself, but to observe the law of God faithfully on all occasions in this matter. Besides, as a Member of St. Patrick's League, he should be strongly opposed at all times to drunkenness in others, because drunkenness is a sin, and a disgrace, and because it is one of the greatest evils of our country. We gladly call the attention of our readers to the existence of an organisation for the suppression of one of the most fruitful sources of intemperance in Ireland, and therefore a grave social evil; and we wish the League every success.

Δ Όια ραορ έίπε ο'ν Ούαζάν.

THE WARTY ULCER OF MARJOLIN.

AT a recent meeting of the California Academy of Medicine, Dr. Sherman brought before the Academy this subject of Marjolin's ulcer, and gave the history of a case which terminated malignantly (*Occidental Med. Times*, Jan., 1904). We notice that in the original paper, and in the references to the bibliography of the disease, no mention was made of Dr. R. W. Smith's exhaustive monograph on the subject, which originally appeared in the DUBLIN QUARTERLY JOURNAL OF MEDICAL SCIENCE, in May, 1850.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR THORNLEY STOKER, M.D., F.R.C.S.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF MEDICINE.

President—SIR A. V. MACAN, M.B., Pres. R.C.P.I.
Sectional Secretary—R. TRAVERS SMITH, M.D., F.R.C.P.I.

Friday, March 4, 1904.

SIR J. W. MOORE in the Chair.

Milk: Human and Bovine.

DR. WALTER SMITH made a communication upon milk, and demonstrated some chemical tests which have been recently proposed. One of the most curious facts in regard to the composition of milk is the presence in it, in measurable amount, of citric acid, which may be considered a specific product of the mammary gland. It has been shown that cow's milk includes from one to three times as much citric acid as woman's milk, and the amount may be reckoned as equivalent to about 0.25 per cent of calcium citrate. To distinguish between human and bovine milk a simple test has been advanced by Umikoff of St. Petersburg. It consists simply in treating the milk with half its volume of ordinary liquor ammoniæ, and keeping the mixture at a temperature of 60° C., for about twenty minutes. Human milk assumes a violet red colour, the shade being deeper according to the puerperal age of the milk. Cow's milk turns

faintly yellow. This test is valid and satisfactory. Mr. Saul has proposed a test to distinguish raw milk from scalded or boiled milk. To 10 c.c. of milk add 1 c.c. of a recently prepared one per cent. aqueous solution of "ortol" (an ortho-salt of methyl-amido-phenol, which is used in photography), and then one or two drops of H_2O_2 . A vivid deep red colour is produced. Boiled milk is unaffected. Metol (a para-salt of methyl-amido-phenol) gives a café-au-lait tint when used instead of ortol in Saul's test. To detect formaldehyde added to milk as a preservative a simple test has been proposed by Manget and Marion. Sprinkle a few crystals of "amidol" (another photographic developer, and which is a salt of di-amido-phenol) on the milk, slightly diluted. Fresh milk quickly assumes a pink or salmon colour. Milk which contains a very small trace of formaldehyde slowly assumes a canary yellow colour.

DR. LANGFORD SYMES laid stress upon the practical importance of Dr. Smith's paper, and strongly endorsed the opinion as to the futility of giving lime to children as a medicinal measure. The only use of lime added to cow's milk was to modify the physical properties of the curd in the stomach. Too little was absorbed from the digestive tract to render lime of use in treating rickets. He believed that it was not fully understood to what extent sterilisation altered the properties of milk, and expressed the opinion that a diet of sterilised milk was capable of producing rickets and scurvy in children. It was open to question whether human milk was secreted absolutely sterile or not.

DR. TRAVERS SMITH asked if the citric acid in milk was affected by boiling, for if such were the case an explanation was afforded of the powers of sterilised milk to produce scurvy.

COLONEL MACNEESE, R.A.M.C., DR. COLEMAN, and DR. CRANNY also spoke.

DR. WALTER SMITH, in replying, stated that calcium citrate being less soluble in hot than cold milk, some was removed in the scum of boiled milk.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—ALFRED J. SMITH, M.B., F.R.C.S.I.

Secretary—T. HENRY WILSON, F.R.C.P.I.

Friday, March 11, 1904.

THE PRESIDENT in the Chair.

Exhibitions.

SIR ARTHUR V. MACAN showed a most interesting series of eight plaster casts of foetal heads, by Professor E. Winternitz, of Tübingen, illustrating the changes in the child's head due to the several presentations; also an enlarged (six diameters) cast of the foetal heart. He also demonstrated an obstetric phantom (Dr. Sellheim's), and a *papier maché* foetal head, by Dr. Hugo Gloeckner. A "lay figure" of a foetus designed by Dr. Ludwig Knapp and several plaster casts of deformed pelvises were also shown.

Gynæcological Report of Mater Hospital, Belfast.

DR. A. DEMPSEY (Belfast) read a brief report of his operative work in the Gynæcological Wards of the Mater Hospital, Belfast, during the year 1903. There were 107 operations, 25 being intra-peritoneal with only one death. In cases of metritis and endometritis, he regarded curettage alone as not sufficient to cure all cases. He referred to the hot, dry air treatment, and apparatus introduced by Reitter, of Vienna, for ovarian and vague pelvic pain, and for the absorption of cellular exudates in the pelvis. He had found very satisfactory results from its use in both classes of cases. Temperatures of 120° to 130° C. can be obtained by it. This treatment is not applicable when any active inflammation is present. Among the laparotomies were: 11 ovariectomies, 9 retro-peritoneal hysterectomies, 2 extra-uterine foetation cases, both diagnosed before rupture, one case of gastric and intestinal adhesions, one appendicectomy, and one intraperitoneal abscess drained through the abdominal wound.

SIR ARTHUR V. MACAN, DR. W. J. SMYLY, DR. TWEEDY, and the PRESIDENT, having discussed the Report, DR. DEMPSEY replied.

Sarcoma of the Vagina.

DRS. JELLETT and EARL read a paper on this subject, and showed a specimen.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—HENRY C. EARL, M.D., F.R.C.P.I.

Secretary—ARTHUR H. WHITE, F.R.C.S.I.

Friday, March 18, 1904.

THE PRESIDENT in the Chair.

Subcutaneous Endothelioma.

MR. E. H. TAYLOR and DR. O'SULLIVAN exhibited a tumour from the leg of a man, aged forty-two, which had originated a year previously in a mole. The tumour, which was attached by a pedicle, was pigmented, and had grown very rapidly. The glands in the inguinal region and in the iliac fossa were large and hard. Dr. O'Sullivan demonstrated microscopic preparations from various portions of the tumour. It showed, near the periphery, spaces lined by a single layer of high cubical cells separated from blood-vessels by hyaline connective tissue. In a deeper portion the cells, several layers deep had encroached on this connective tissue and formed a sort of outside sheath to the vessels. The main part of the growth consisted of solid columns of cells separated from one another by a fine fibrous stroma. These cells showed very numerous mitoses. The pigment was confined to the stroma.

DR. O'SULLIVAN considered the tumour to be an endothelioma growing from the lymph spaces in the subcutaneous tissue.

THE PRESIDENT discussed the paper.

Kidney Tumours.

MR. L. G. GUNN showed two tumours from kidneys of different subjects. One, which he called a sarcoma, showed large round cells invading the kidney substance. He discussed the possibility of the tumour being a carcinoma of the suprarenal capsule. The second tumour showed a firm cystic structure with a papillary growth extending into and dilating the ureter.

THE PRESIDENT and DR. O'SULLIVAN spoke.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Univ. Dubl. ;

F.R.C.P.I. ; F.R. Met. Soc.

.Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, March 26, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending March 26, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 26.8 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, March 26, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Mar. 5	Mar. 12	Mar. 19	Mar. 26			Mar. 5	Mar. 12	Mar. 19	Mar. 26	
22 Town Districts	24.0	25.7	27.3	26.8	26.0	Lisburn	36.4	36.4	31.8	27.3	33.0
Armagh	13.7	20.6	20.6	27.5	20.6	Londonderry	23.9	27.7	12.6	30.2	23.6
Ballymena	-	14.4	38.3	14.4	16.8	Lurgan	22.1	22.1	13.3	26.6	21.0
Belfast	23.4	22.4	30.8	24.3	25.2	Newry	16.8	12.6	12.6	12.6	13.7
Clonmel	20.5	20.5	10.3	46.2	24.4	Newtownards	11.4	28.6	28.6	28.6	24.3
Cork	27.4	19.9	32.2	28.1	26.9	Portadown	25.8	25.8	20.7	36.2	27.1
Drogheda	12.3	45.0	16.3	8.2	20.5	Queenstown	39.6	19.8	19.8	46.1	31.3
Dublin (Reg. Area)	26.4	28.3	27.7	30.4	28.2	Sligo	24.0	28.8	19.2	-	18.0
Dundalk	19.9	23.9	8.0	23.9	18.9	Tralee	26.4	21.1	10.6	37.0	23.8
Galway	15.5	50.5	66.0	31.1	40.8	Waterford	13.6	31.2	21.4	11.7	19.5
Kilkenny	34.3	29.5	9.8	39.3	28.2	Wexford	32.7	37.4	28.0	32.7	32.7
Limerick	17.8	24.6	23.2	20.5	21.5						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, March 26, 1904, were equal to an annual rate of 2.1 per 1,000—the rates varying from 0.0 in thirteen of the districts to 9.1 in Lisburn, the 6 deaths from all causes registered in that district including 2 from whooping-cough. Among the 167 deaths from all causes registered in Belfast are 2 from measles, 14 from whooping-cough, one from diphtheria, and one from diarrhoea. The 41 deaths from all causes in Cork include 3 from whooping-cough. The 24 deaths in Londonderry include 2 from diphtheria, and the 15 deaths from all causes in Limerick include 3 from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, March 26, 1904, amounted to 217—98 boys and 119 girls; and the deaths to 235—100 males and 135 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 32.3 in every 1,000 of the population. Omitting the deaths (numbering 14) of persons admitted into public institutions from localities outside the Area, the rate was 30.4 per 1,000. During the twelve weeks ending with Saturday, March 26, the death-rate averaged 29.2, and was 1.7 below the mean rate for the corresponding portions of the ten years 1894–1903.

Measles and whooping-cough each caused 5 deaths; influenza caused 4 deaths, diphtheria 2, and *diarrhoea* one death. In the 4 weeks preceding there had been 11, 10, 6 and 13 deaths respectively from whooping-cough. No deaths from small-pox, scarlet fever, typhus, or enteric fever were registered during the week.

Tuberculous disease caused 45 deaths, including 15 from tubercular phthisis, 21 from *phthisis*, 4 from tubercular meningitis, one from *tabes mesenterica*, and 4 from other forms of the disease.

Carcinoma caused 5 deaths, and 5 deaths were assigned to *cancer (malignant disease)*.

Of 12 deaths attributed to diseases of the brain and nervous system, 6 (of infants under one year) were registered as being due to *convulsions*.

There were 35 deaths from diseases of the heart and blood-vessels.

The deaths from diseases of the respiratory system (43) include 29 deaths from bronchitis, one death from croupous pneumonia, 6 deaths from broncho-pneumonia, and 2 from *pneumonia*. The total is equal to an annual rate of 5.9 per 1,000 of the population of the Area, the annual average rate for the corresponding week of the preceding 10 years being 7.3 per 1,000.

Of 6 deaths from violence, 2 were due to drowning.

In 14 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 7 children under one year old and the deaths of 4 persons aged 60 years and upwards.

Sixty-seven of the persons whose deaths were registered during the week were under 5 years of age (43 being infants under one year, of whom 18 were under one month old), and 62 were aged 60 years and upwards, including 29 persons aged 70 and upwards, of whom 11 were octogenarians, and one (a woman) was stated to have been aged 97 years.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended March 26, 1904, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or German Measles	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	Mar. 5	-	14	-	5	-	-	3	-	3	10	14	-	-	-	46
	Mar. 12	-	22	-	17	-	-	14	-	22	7	-	-	-	-	82
	Mar. 19	-	25	-	6	-	-	6	-	6	9	-	-	-	-	60
	Mar. 26	-	23	-	8	-	-	9	1	-	10	9	-	-	-	60
Rathmines and Rathgar Urban District	Mar. 5	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
	Mar. 12	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2
	Mar. 19	-	-	-	1	-	-	1	-	-	2	-	-	-	-	4
	Mar. 26	-	-	-	-	-	-	-	-	-	1	1	-	-	-	2
Pembroke Urban District	Mar. 5	-	-	-	-	-	-	-	-	-	1	1	-	-	11	13
	Mar. 12	-	1	-	-	-	-	-	-	-	-	-	-	3	20	24
	Mar. 19	-	-	-	-	-	-	-	-	-	-	-	-	2	33	35
	Mar. 26	-	-	-	-	-	-	-	-	-	-	1	-	2	35	38
Blackrock Urban District	Mar. 5	-	-	-	-	-	-	-	-	-	-	1	-	2	-	3
	Mar. 12	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Mar. 19	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Mar. 26	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Kingstown Urban District	Mar. 5	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	Mar. 12	-	-	-	1	-	-	-	-	-	-	-	-	3	-	4
	Mar. 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mar. 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
City of Belfast	Mar. 5	1	-	-	6	-	-	3	2	1	4	5	-	-	-	23
	Mar. 12	1	-	-	16	-	-	4	-	2	7	9	1	-	-	40
	Mar. 19	1	-	-	14	-	-	7	-	-	4	4	1	-	-	31
	Mar. 26	-	-	-	10	-	-	2	2	4	8	4	-	-	-	30

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, March 26, 1904, 12 cases of measles were admitted to hospital, 15 were discharged, there were 4 deaths, and 29 patients remained under treatment at the close of the week.

Thirteen cases of scarlet fever were admitted to hospital, 15 cases were discharged, and 61 cases remained under treatment at the close of the week. This number is exclusive of 19 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Four cases of diphtheria were admitted to hospital, 5 were discharged, and 16 cases remained under treatment at the close of the week.

Five cases of enteric fever were admitted to hospital, 13 cases were discharged, there was one death, and 39 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 8 cases of pneumonia were admitted to hospital, 8 patients were discharged, there were 2 deaths, and 15 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, March 26, 1904, in 76 large English towns, including London (in which the rate was 18.4), was equal to an average annual death-rate of 18.7 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 22.3 per 1,000, the rate for Glasgow being 21.2 and for Edinburgh 20.6.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of March, 1904.

Mean Height of Barometer	-	-	-	29.958 inches
Maximal Height of Barometer (23rd, at 9 p.m.)	-	-	-	30.446 „
Minimal Height of Barometer (29th, at 9 p.m.)	-	-	-	29.264 „
Mean Dry-bulb Temperature	-	-	-	41.9°
Mean Wet-bulb Temperature	-	-	-	39.7°
Mean Dew-point Temperature	-	-	-	36.9°
Mean Elastic Force (Tension) of Aqueous Vapour	-	-	-	.223 inch.
Mean Humidity	-	-	-	83.2 per cent.
Highest Temperature in Shade (on 19th)	-	-	-	60.8°
Lowest Temperature in Shade (on 11th)	-	-	-	28.9°
Lowest Temperature on Grass (Radiation) (11th)	-	-	-	25.1°
Mean Amount of Cloud	-	-	-	64.9 per cent.
Rainfall (on 19 days)	-	-	-	2.091 inches.
Greatest Daily Rainfall (on 7th)	-	-	-	.518 inch.
General Directions of Wind	-	-	-	N.E., W.

Remarks.

March, 1904, was cold and unsettled, with frequent, though not heavy, rainfall—on the 7th, however, the measurement was .518 inch, or more than one-fourth of the total precipitation in the month. A warm spell, with fresh S.W. winds occurred on the 19th and 20th, the maximum on the former

day being 60.8°—the highest reading in Dublin since October 12, 1903, and the minimum on the latter day being 50.0°. On the 16th, also, the thermometer ran up to 58.5° under the influence of a southerly wind and bright sunshine. Anticyclones prevailed at the beginning of the month, from the 9th to the 12th, and from the 23rd to the 27th. On the 3rd the barometer rose by 6 p.m. to 31.17 inches at Archangel.

The duration of bright sunshine was estimated at 101 hours, compared with 110.75 hours in 1903, 94 hours in 1902, 132.5 hours in 1901, and only 84 hours in 1900. The daily average of bright sunshine was 3.26 hours, compared with 3.57 hours in 1903, 3 hours in 1902, 4.27 hours in 1901, and only 2.7 hours in 1900.

In Dublin the arithmetical mean temperature (42.9°) was 0.7° below the average (43.6°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 41.9°. In the forty years ending with 1904, March was coldest in 1867 and 1883 (M. T. = 39.0°), and warmest in 1893 (M. T. = 48.1°). In 1903 the M. T. was 45.6°.

The mean height of the barometer was 29.958 inches, or 0.042 inch above the corrected average value for March—namely, 29.916 inches. The mercury rose to 30.446 inches at 9 p.m. of the 23rd and fell to 29.264 inches at 9 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, 1.182 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 41.9°. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* × .485), the M. T. becomes 42.7°. The arithmetical mean of the maximal and minimal readings was 42.9°, compared with a thirty years' (1871–1900) average of 43.6°. On the 19th the thermometer in the screen rose to 60.8°—wind, S.W.; on the 11th the temperature fell to 28.9°—wind, W. The minimum on the grass was 25.1°, also on the 11th.

The rainfall was 2.091 inches, distributed over 19 days. The average rainfall for March in the thirty-five years, 1866–1900, inclusive, was 1.950 inches, and the average number of rainy days was 16.0. The rainfall, therefore, and the rainy days were above the average. In 1867 the rainfall in March was very large—4.972 inches on 22 days. On the other hand, the smallest March rainfall was .288 inch on 8 days in 1893. In 1900, only .963 inch fell on 13 days. In 1903 the rainfall was 3.623 inches on 26 days.

The atmosphere was foggy in the city on the 3rd, 10th, 11th,

12th, 14th, 17th and 18th. High winds were noted on 12 days, reaching the force of a gale on 3 occasions—namely, the 5th, 6th, and 30th. Snow or sleet occurred on the 1st, 4th, 5th, 6th, 14th, 29th, and 30th; hail also fell on the 1st, 2nd, 4th, 5th, 6th, 29th, and 30th. Temperature reached or exceeded 50° in the screen on 10 days, compared with 18 days in 1903, 23 days in 1902, only 6 days in 1901, only 5 days in 1900, 19 days in 1899, 9 in 1898, 14 in 1897, 21 in 1896, and 13 in 1895. It fell to 32° in the screen on 3 nights, and on the 19th it rose to 60.8° . The minima on the grass were 32° or less on 13 nights, compared with 4 nights in 1903, 5 nights in 1902, 11 nights in 1901, 14 nights in 1900, 13 in 1899, 15 in 1898, 9 in 1897, 8 in 1896, and 10 in 1895. The thermometer twice failed to reach 40° (on the 1st and 4th).

The rainfall in Dublin during the three months ending March 31st amounted to 7.938 inches on 55 days, compared with 9.126 inches on 61 days in 1903, 5.114 inches on 43 days in 1902, 5.656 inches on 46 days in 1901, 6.698 inches on 63 days in 1900, only 1.650 inches on but 32 days in 1891, and a thirty-five years' (1866–1900 inclusive) average of 6.170 inches on 50.0 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.957 inches, the highest reading observed being 30.461 inches at 9 p.m. of the 23rd, the lowest, 29.250 inches at 9 p.m. of the 29th. The mean temperature was 42.9° , the mean dry-bulb reading at 9 a.m. and 9 p.m. being 42.2° . Rain fell on 18 days to the amount of 2.112 inches, .500 inch being measured on the 7th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 89.75, giving a daily average of 2.9 hours. The corresponding figures for January, 1904, were 45.25 hours and 1.46 hours, and for February, 37.25 hours and 1.28 hours.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, 2.415 inches of rain fell on 17 days. The corresponding figures for March, 1900, are 1.320 inches of rain on 14 days; for 1901, 1.840 inches on 14 days; for 1902, 1.660 inches on 17 days; and for 1903, 5.050 inches on 25 days. The maximal fall in 24 hours was .550 inch on the 7th. The total rainfall since January 1, 1904, equals 8.107 inches on 53 days, compared with 11.756 inches on 58 days in the first quarter of 1900, 7.260 inches on 41 days in the same period of 1901,

6.110 inches on 34 days in 1902, and 11.220 inches on 54 days in 1903.

Dr. B. H. Steede, M.D., D.P.H., reports that at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 2.605 inches on 17 days, compared with 6.186 inches on 30 days in 1903, 1.417 inches on 19 days in 1902, 1.798 inches on 14 days in 1901, .892 inch on 12 days in 1900, and 1.054 inches on 9 days in 1899. On the 7th .650 inch fell, and on the 8th .356 inch. The total rainfall at this station from January 1 to March 31, inclusive, was 10.323 inches on 59 days, compared with 13.602 inches on 65 days in the first quarter of 1903, 6.006 inches on 41 days in the same period of 1902, 6.635 inches on 39 days in that of 1901, 10.631 inches on 57 days in that of 1900, 9.929 inches on 48 days in that of 1899, 4.767 inches on 40 days in that of 1898, and 10.086 inches on 57 days in that of 1897. The extremes of temperature were—highest, 57.7° on the 19th; lowest, 30.1° on the 11th.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 21 days to the amount of 2.50 inches, compared with 2.20 inches on 13 days in March, 1901, 1.98 inches on 18 days in 1902, and 4.53 inches on 28 days in 1903. The greatest daily rainfall was .73 inch on the 7th. The temperature in the shade ranged from 59°, on the 19th, to 29° on the 11th and 15th. The mean shade temperature was 44.1°, compared with 41.2° in 1901, 46.4° in 1902, and 45.7° in 1903. Since January 1st, 1904, the rainfall at this station amounts to 10.14 inches on 67 days, compared with 6.71 inches on 40 days in the first quarter of 1901, 7.02 inches on 43 days in 1902, and 11.36 inches on 62 days in 1903.

The rainfall at Cloneevin, Killiney, Co. Dublin, as returned by Mr. Robert O'B. Furlong, C.B., was 2.01 inches on 17 days, compared with 3.40 inches on 29 days in 1903, 1.50 inches on 21 days in 1902, 1.57 inches on 17 days in 1901, .94 inch on 14 days in 1900, and a nineteen years' (1885-1903) average of 1.848 inches on 16.3 days. The maximum in the 19 years was 3.59 inches in 1888, the minimum was .26 inch in 1893. The heaviest fall in 24 hours was .48 inch on the 7th. At this station the total rainfall since January 1 was 7.99 inches on 54 days, compared with a fall of 8.17 inches on 62 days in the first quarter of 1900, 5.96 inches on 45 days in that of 1901, 5.47 inches on 45 days in that of 1902, and 8.30 inches on 64 days in that of

1903. Snow or sleet or hail was noticed on the 1st, 6th, 13th, and 29th.

At the Railway Hotel, Recess, Connemara, Co. Galway, Mr. A. A. Smith recorded a rainfall in March of 4.160 inches on 16 days, compared with 5.400 inches on 27 days in 1903, 5.860 inches on 20 days in 1902, 4.295 inches on 14 days in 1901, and 1.311 inches on 13 days in 1900. The maximal falls in 24 hours were .510 inch on the 28th and again on the 30th. Delightful weather was enjoyed during the first 11 days of the month, but from the 12th rain and wind prevailed, and the closing days were very boisterous, cold and wet. Snow and severe hail storms were experienced on the 29th and 30th.

At Wellesley-terrace, Cork, Mr. W. Miller reports that the March rainfall was 2.55 inches on 17 days. The greatest day's fall was 0.75 inch on the 20th. The rainfall was .09 inch over the average.

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 19 days to the amount of 2.303 inches, of which .640 inch was measured on the 7th.

Dr. J. Byrne Power, F. R. Met. Soc., Medical Superintendent Officer of Health, Kingstown, reports that the mean temperature at that health resort was 42.9°, being 1.1° below the average for the month during the previous 6 years, the extremes being—highest, 61.2° on the 19th; lowest, 28.5° on the 11th, and 15th. At Bournemouth the mean was 42.7°, the extremes being—highest, 59° on the 10th; lowest, 26° on the 1st. The average mean temperature for each and every one of the winter months of November, December, January, February and March during the past six years was considerably higher at Kingstown than at Bournemouth, the average mean for the five months during the previous six years being—at Kingstown, 44.5°, and at Bournemouth, 43.0°. This relative condition of temperature is now becoming reversed as the summer solstice approaches, and from that period the summer heat becomes intense, and at times very oppressive, on the south coast of England, while at Kingstown it will be comparatively cool. The mean daily range of temperature for the month at Kingstown was 10.8°, at Bournemouth it was 11.7°. The rainfall at Kingstown was 1.7 inches on 17 days, and at Bournemouth, 1.47 inches on 13 days. The total duration of bright sunshine was 99.8 hours at Kingstown, 102.6 hours at Phoenix Park, 106.6 hours at Valentia, 93.7 hours at Parsons-town, 91.1 hours at Southport, and 90.7 hours at Eastbourne.

PERISCOPE.

DISCOVERIES BY BUSY PRACTITIONERS.

MORGAGNI, whom Virchow greeted as the Father of Modern Pathology, was first of all a clinical observer, a careful student of the cases that came under his observation. His pathologic studies were always directed to the better understanding of his clinical cases, and that is what makes his great work of such practical value. Auenbrugger, the discoverer of percussion in the investigation of thoracic disease, was a simple practitioner of medicine all his life. While Auenbrugger was doing his great work in Austria, Jenner was preparing for his in England. Jenner was just a country practitioner, but, in spite of all the *laissez aller* that term is supposed to imply, he was one of the keenest of observers. When he told the famous John Hunter of the popular belief in Gloucestershire that cow-pox protected against small-pox, and that the subject seemed worth thinking about, Hunter blurted out, "Don't think, investigate." Laennec, his illustrious contemporary, the discoverer of auscultation, the greatest physician of the Nineteenth Century, one of the four or five greatest geniuses in the history of medicine, was just a medical practitioner with a hospital service. He took for the motto of his immortal work on auscultation the Greek maxim, "The most important part of an art is to know how to see things." Bright and Graves and Addison were busy physicians in the best sense of the term, yet were faithful observers who paid proper interest on the medical knowledge lent them, by handing it on notably increased in value to their successors. And there is yet, and ever will be, a place in the footsteps of such men for the earnest, busy practitioners of this and every generation.—*Journal of the Amer. Med. As.*

THE PATHOGENIC AGENT OF SYPHILIS.

M. RENÉ HORAUD, Lyons (*Lyon Médical*, Tome CII., No. 8), says the blood of the syphilitic presents certain pathognomonic alterations found under the form of diverse involutions, a parasite, which we believe to be a sporozoon. To this specific parasite he ascribes the alteration of the blood, the diminution of its alkalinity, the lessened number of red globules, and the augmentation in number of the hæmatoblasts. He performed some

interesting experiments with these sporozoa, which are needle-like bodies, by bringing them into contact with the healthy blood of an infant. These pathognomonic bodies became very active, moving as do spermatozoa, and they rapidly displaced the red globules from the field of the microscope. The red corpuscles lost their normal shape. The capsule is sometimes penetrated by the pathognomonic body, and sometimes becomes merely adherent to it. The author has found these agents in the primitive chancre, in the lymphatic and sanguineous vessels, in the mucous plaques, and in the primary and tertiary ulcers.

SEVENTH INTERNATIONAL CONGRESS OF OTOTOLOGY, BORDEAUX, 1904. THIS Congress will take place at Bordeaux, under the patronage of the Minister of Public Instruction, from the 1st to the 4th of August, 1904. We understand that the French railway companies intend to allow a reduction of 50 per cent. on the price of return tickets to the members of the Congress who will assemble at Bordeaux next August. Persons wishing to take part in the Congress are earnestly requested to enter their names before May 15, in order to allow the Arrangements Committee to put them in possession of all necessary information, and to arrange for their journey (railway tickets) and for their stay at Bordeaux. The amount of the subscription (25 francs in the case of medical practitioners, and 12 francs for medical students) should be forwarded to the treasurer, Dr. Lannois, 14 Rue Émile-Zola, Lyons, and the title of communications to the Secretary-General, Dr. Lermoyer, 20A Rue La Boétie, Paris (8e).

PNEUMATIC TOURNIQUETS.

DR. HARVEY CUSHLING describes (*Medical News*, New York, March 26th, 1904) the structure and uses of pneumatic tourniquets. He uses a bicycle pump for rapid inflation. The advantages are that pressure can easily be regulated so as to stop the arterial supply and yet not to injure the nerve trunks. Whilst this form of tourniquet can be usefully applied in many cases, such as small operations on the extremities under cocaïn, it is in exploratory craniotomies that Dr. Cushling has chiefly put it to the test, and he has found it the best form of tourniquet for placing about the fronto-occipital circumference to prevent bleeding from the long curved incision through the scalp.

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MEDICAL SCIENCE.

JUNE 1, 1904.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Milk : Human and Bovine.*^a By WALTER G. SMITH, M.D.; Ex-President, Royal College of Physicians of Ireland; Physician to H. E. the Lord Lieutenant; Physician to Sir Patrick Dun's Hospital.

As mammals we normally begin our life on a milk diet, and the same fluid commonly constitutes one of the last forms of nutriment we take as life ebbs away.

Histologically a milk gland represents an aggregate of hypertrophied sebaceous glands, and, since small quantities of casein have been found in the sebum of mammals (Neumeister) it is not unreasonable to suppose that there is an ontogenetic connection between the sebaceous and milk glands. Moreover, transitional forms between the two kinds of glands are known to occur in Monotremata.

Although mammals rank high in the scale of evolution, their origin dates far back in geological time, and the hypothesis has been suggested by Hæckel that a local development of the sebaceous glands on the ventral skin gave rise, probably during the Triassic period, to the mammary organ.

Milk is essentially an emulsion of butter-fat in a solution

^a Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, March 4, 1904. [For the discussion on this paper see page 383.]

of salts, proteids, and sugar. Two views have been entertained as to the method of production of milk—viz., the true secretory and the disintegration theory.

The former, and more probable, view is that supported by Schäfer (*"Text-Book of Physiology,"* I., p. 666). The cells extrude their secreted materials into the alveoli, much as in the case of other secretions, without undergoing any histological degeneration. The secretion may be compared with that of saliva by a mucous salivary gland.

The other view, which has long held the field, likens the mammary secretion to that of the sebaceous glands, where undoubtedly complete disintegration of the whole cell occurs, new cells being rapidly formed to fill up the depleted ranks.

It was supposed that as the older gland-cells passed through the stages of fat-degeneration and disintegration their place was taken by younger cells which went through the same changes, and so the process of milk formation went on continuously for a considerable time.

Verworn accepts this view, and remarks:—"What occurs as a normal process in the cells of the lacteal glands occurs under pathological conditions in much greater extent in various tissues, and leads almost always to incurable and fatal losses, since, as a rule, no reparation is made by the younger cells."

More than thirty years ago Virchow picturesquely said that the production of milk in the brain instead of in the lacteal glands constitutes a form of brain softening. And he quaintly adds:—"The same process that in one place affords the happiest and sweetest results, in another induces a painful and bitter wound."

Of the influence of the nervous system upon the mammary secretion little is known experimentally. In this connection, however, it is worth recalling a case reported by Dr. Routh in 1897. In his patient the spinal cord was, as confirmed by autopsy, completely destroyed in the region of the seventh thoracic nerve. Yet the breasts enlarged during the pregnancy, and during the puerperium the mammary function was performed with normal punctuality and persistence. The quality of the milk was good (Schäfer,

"Text-Book of Physiology," II., p. 812. From *Trans. Obst. Soc., Lond.*, 1897).

The milk of various mammals has been employed for human nutriment, but practically we need consider only two—viz., woman's and cow's milk.

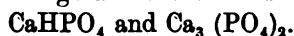
All that relates to the composition and properties, individual and comparative, of these two foods, must needs have a profound interest for medical practitioners, and a deep significance for the health of the public. Hence a large amount of experimental work has been done, and an enormous literature has grown up dealing with the milk question.

Everyone knows of the burning controversy which still rages as to the relations of human and bovine tuberculosis. Upon this, the bacteriological side of the subject, I do not intend to touch. It is fully dealt with in a recent monograph by Swithinbank and Newman (1903). I propose in this paper simply to lay before you a few observations, and to exhibit some simple chemical experiments in illustration of the remarks. Upon the physical qualities of milk I shall say very little.

The opacity of milk is due to three factors:—

(a) An emulsion of fat.

(b) Insoluble and gelatinous calcium phosphates—



(c) Caseinate of calcium.

When milk is boiled everyone is familiar with the skin or pellicle that forms upon its surface, and which has considerable tenacity. Various explanations have been put forward. Salkowski states that the pellicle consists merely of partially desiccated milk. It probably consists largely of casein-calcium, and may also, probably, include a little coagulated lact-albumen. Moreover, part of the calcium is separated as insoluble tricalcic phosphate, most likely by a re-arrangement similar to that which I have described as apt to happen when urine is boiled.

Drying is an essential condition for the formation of a film, and no film will be formed if milk be covered with paraffin and boiled. A film is produced upon heating any proteid solution containing emulsified fat, or even

paraffin (Jamison and Hertz, *Journ. of Physiology*, XXI., 1901, p. 26).

A singular statement is made by Swithinbank and Newman in regard to the temperature of scalded milk. They affirm that the temperature, taken off the fire as "boiling" by the ordinary cook or nurse, rarely exceeds 90° C., and often falls short of this.

For the complete investigations of solutions, whether inorganic or organic, we have recently learned that account must be taken of the *data* of physical chemistry as well as the results of ordinary chemical analysis.

In my paper on Dissociation, read before the Biological Club in 1902, I pointed out the interesting fact that blood and milk, although chemically so different, have the same osmotic pressure. It is concluded, therefore, that they contain in unit volume the same number of molecules. By way of contrast, let us, for a moment, turn our thoughts to the renal secretion. The kidneys secrete a fluid which, in comparison with the blood, is at one time hypertonic, at another time hypotonic, according as the blood is too concentrated or too dilute, for the essential function of the kidney is to maintain an average composition of the blood, or, in popular language, to "purify" it.

Cryoscopic observations (*i.e.*, depression of freezing point), coupled with those on electrical conductivity, lead to the conclusion that in milk, human and bovine, some of the molecules which exert osmotic pressure exist in the dissociated state, and, therefore, conduct electricity; and some exist as organically combined molecules, which are non-ionised, and hence are non-conductors.

I next ask your attention to the comparative composition of human and cow's milk, and I elect Soldner's analysis:—

		Cow		Woman
Fat	-	3.42	-	3.11
Lactose	-	4.25	-	6.36
Ash	-	0.70	-	0.24
Citric acid	-	0.18	-	0.05
Albumen and unknowns		3.22	-	1.95

König's analysis does not materially differ from this, but it does not specify citric acid.

In the ash of either kind of milk the salts of potassium predominate over those of sodium—the converse of what is found in the ash of urine.

Cow's milk contains six times as much CaO as human milk, and a pint of cow's milk contains a larger amount of CaO than a pint of freshly made lime-water. It is well recognised that the Ca salts play an essential part in the clotting of casein.

The reaction of fresh milk is feebly alkaline, or often amphoteric to litmus. The reaction is conditioned by three factors:—

- (1) Neutral casein—calcium compound.
- (2) Monohydric phosphate of potassium, K_2HPO_4 : blues red litmus.
- (3) Dihydric phosphate of potassium, KH_2PO_4 : reddens blue litmus.

One of the most curious facts in regard to the composition of milk has been known since 1888 (Henkel). I refer to the presence, in measurable amount, of citric acid, which may be considered a specific product of the mammary gland. It has been shown that cow's milk includes from 1 to 3 times as much citric acid as woman's milk, and the amount may be reckoned as equivalent to about 0.25 per cent. of calcium citrate.

When milk is subjected to dialysis the citrate passes through the dialyser. This discovery suggests the reflection that this unique occurrence of citric acid in the animal body may be connected with what Dr. Cheadle calls the "mysterious antiscorbutic power of milk."

Furthermore, it appears probable that in the association of calcium citrate with lactose lies the explanation of a colour test between human and cow's milk, which was published by Umikoff in 1898, and which I exhibit to you.

In 1898 Dr. Umikoff, of St. Petersburg, described a test which serves to readily distinguish human from cow's milk, and, furthermore, gives indication of the age of woman's milk, reckoned from the beginning of lactation. After the eighth month of lactation the reaction is not to be depended upon.

5 cc. of milk are treated with 2.5 cc. of liquor ammoniæ

(10 per cent.), and warmed for 15 to 20 minutes in a water bath at 60° C. Human milk assumes a violet red or buff-brown colour, and the shade is deeper according to the age of the milk. Cow's milk, of different ages, when similarly treated, turns yellow, or, at most, yellowish brown. Milk kept for a month (by thymol) and boiled milk give the reaction.

Umikoff's paper was published in Russian. Dr. Sieber has, however, repeated and extended Umikoff's observations, and has published an interesting paper in the *Zeitschrift für physiologische Chemie*, XXX., 101.

It was not easy to ascertain upon what factor or factors the colouration depended. According to Sieber's researches the colour appears to be due to an interaction between lactose, ammonia, and the minute quantities of calcium citrate which occur in human milk.

The reason why cow's milk fails to yield the colour reaction seems to be this:—Cow's milk contains six times more CaO than human milk, while its proportion of citric acid is only from 1 to 3 times as great. Neither the fat nor the proteids of milk have anything to do with the reaction. The presence of milk sugar is indispensable, but the intensity of the colouration is not proportional to the amount of lactose. When cow's milk is warmed with ammonia all the citric acid is precipitated as calcium citrate along with calcium phosphate. In human milk, on account of the small proportion of CaO, part of the citric acid remains in solution. Umikoff's reaction is briefly noted in Stirling's "Practical Physiology," 4th Ed., 1902, p. 112. Three years ago I made several experiments with this test, and can now again confirm its validity.

In the proportion of fat it will be seen that there is no considerable difference between cow's milk and human milk. Woman's butter is richer in oleic acid. Some mammals have an extraordinarily high content of fat in their milk, and in the dolphin this amounts to 45.8 per cent.

The proteids in milk are at least 3 in number:—

- (1) Casein (Caseinogen)—Is a nucleo-albumen of strongly acid character. It exists in milk as a neutral Ca compound, and can be "salted" out by NaCl.

(2) Lacto-globulin—"Salted" out by MgSO_4 .

(3) Lact-albumen—"Salted" out by $(\text{NH}_4)_2 \text{SO}_4$.

Human milk contains about twice as much albumen as cow's milk.

Colostrum is rich in globulin and lact-albumen, and hence coagulates upon boiling. It is poor in lactose. The caseinogen and fat are closely associated in normal fresh milk, and appear to form, along with calcium salts, a highly complex organic compound (Swithinbank and Newman).

According to Droop Richmond, the action of rennet is to split up the casein into a dycaseose, the calcium compound of which is insoluble, and which forms curd and a soluble caseose.

The peculiarities of human casein are that it is more easily soluble in alkalies, in acetic acid, and in water. It yields less nuclein upon digestion, and it contains a higher proportion of sulphur. (Cow's casein = 0.75 per cent.; human casein = 1.11 per cent. of sulphur.)

From all this it is easily seen how imperfect must be our efforts to prepare "humanised cow's milk," which is so glibly advertised, and often misused. Contrary to what has been sometimes asserted, fresh milk does not contain any albumose or peptone (Salkowski, *Zeitsch f. phys. Chemie*, XXXI., 336). I show you a specimen of cow's milk to which 3i. of chloroform was added three years ago. You will observe a white precipitate which consists of coagulated casein, along with entangled fat. The yellowish, neutral reacting, supernatant fluid is quite free from casein, and is found to contain unaltered lact-albumen, which can be coagulated by heat alone. Salkowski has shown that the chloroformed milk is devoid of either albumose or peptone. Hence no ferment action or transmutation of proteids has taken place.

Different views have been held as to the exact nature of the carbohydrates in milk. They are usually expressed in analysis in terms of lactose alone. Still it is asserted by some authors—*e.g.*, Neumeister—that lactose is associated with another carbohydrate of a dextrin-like character, but the proof of this does not seem to have been conclusively established.

In the *Brit. Med. Journ.*, 1898, Jan. 22nd., p. 199, Messrs. Carter and Droop Richmond published an interesting paper on the "Composition of Human Milk." Mr. Richmond is analyst to the Aylesbury Dairy Co., and is an acknowledged expert in the chemistry of milk. As the result of their experiments, especially those with polarised light, they come to the conclusion that the sugar of human milk is not ordinary lactose. They, further, are of opinion that there is some evidence that two sugars are present—a crystalline aldobiose and an amorphous carbohydrate (animal gum?).

In connection with this point I carried out some experiments about three years ago in the chemical laboratory of Trinity College, Dublin, by permission of, and with the assistance of, Dr. Emerson Reynolds. The proteids were separated from the milk by van Ketel's method—viz., precipitation by solution of lead acetate (10 per cent.) and a little liquefied carbolic acid. A nearly clear filtrate is thus obtained. The lactose was estimated by Fehling's solution, before and after inversion, and the results compared with those obtained by Mr. Werner with a recently prepared solution of pure lactose. The two sets of results almost exactly tallied, and hence go to support the usual view that the lactose of human milk does not essentially differ from the lactose of cow's milk.

PRESERVATION OF MILK.

It has been proved by Escherich that human milk is absolutely sterile when first drawn from the breast.

Sir Joseph Lister has shown in like manner that cow's milk as it comes from the udder is sterile, and that it quickly becomes infected afterwards in various ways.

Under the sensational title of "Pus as a Beverage," the *British Medical Journal*, December 5, 1903, publishes an account of a serious epidemic of acute illness due to pyogenic infection traced to suppurative mammitis in four cows.

Now the process of boiling milk sterilises it, and destroys not only putrefactive bacteria, but also the germs of acute infective diseases (Cheadle, "Artificial Feeding," 2nd Ed.).

I will now demonstrate to you a test recently proposed by Mr. J. E. Saul, of London, whereby it is easy to distinguish between raw milk and scalded milk (*Brit. Med. Journal*, March 21, 1903, p. 664).

The test can be prepared from the photographic developer sold under the name of "Ortol."

Its active constituent (*quoad* milk) is ortho-methyl-amido-phenol-sulphate.

The subjoined table shows the chemical relationships of the reagents referred to in this paper:—

Benzene	-	-	-	C_6H_6 .
Phenol	-	-	-	$C_6H_5.OH$.
(1) Amido-phenols (ortho. meta. para.)	-	-	-	$C_6H_4NH_2.OH$.
(2) Methyl-amido-phenol	-	-	-	$C_6H_4NH.CH_3.OH$.
Its ortho-salts = "ortol."				
Its para-salts = "metol."				
(3) Di-amido-phenol	-	-	-	$C_6H_3(NH_2)_2.OH$.
Its salts constitute "amidol."				

The introduction of the NH_2 group considerably diminishes the acidic character of the phenols.

A convenient way to apply the test is as follows:—To 9-10 cc. of milk add 1 cc. of recently prepared 1 per cent. aqueous solution of ortol, and then 1 or 2 drops of commercial peroxide of hydrogen. A vivid deep red colour is quickly produced. Milk that has been previously boiled and cooled develops at most a faint pink colour on standing. I find that human milk (fourth or tenth day) gives a much fainter reaction. The reaction is not interfered with by dilute acids, or by carbonate or bicarbonate of sodium, and is merely retarded by the presence of a trace of formaldehyde. A very little raw milk added to boiled milk can be detected with ease by this convenient test.

The cause of the reaction appears to be linked with the presence in milk of an oxidising enzyme, destructible by heat. The test will not prove that a milk has been properly sterilised by heat, for a temperature of $75^\circ C$. for half an hour stops the reaction, yet any sample which affords the reaction cannot have been heated sufficiently, or must, after sterilisation, have been mixed with raw milk. Incidentally Mr. Saul points out that raw milk will serve to distin-

guish "ortol," the *ortho*-derivative from its *para*-isomer which is well known to photographers under the name of "metol."^a

The latter body gives a pale *café au lait* tint to the milk. Another test to distinguish between raw and scalded milk is described by Swithinbank and Newman (*loc. cit.*). If a little 1 per cent. solution of hydro-quinone be added to milk at varying temperatures up to 30° C., and then H₂O₂ dropped in, a distinct rose colouration, assuming later a crushed strawberry tint will gradually develop.

I find that human milk (fifth day) responded to this test more slowly, and developed a pale pink colour.

Detection of Formaldehyde in Milk.—Various chemicals have from time to time been added to milk in order to conserve it. Among these is formaldehyde. My attention was directed, by a reference in Mr. Saul's paper, to a simple test for the detection of formaldehyde in milk, which has lately been announced by MM. Manget and Marion (*Comptes Rend.*, 135, 584).

The reagent employed is another photographic developer, commercially known as "amidol." It is a diamidophenol. To perform the test, a small quantity of amidol is sprinkled on the milk, slightly diluted, and warmed. In a few moments it will be observed that normal fresh milk assumes a pink or salmon colour, which gradually deepens. The reaction is not interfered with by boric acid or by alkaline carbonates. If, on the other hand, milk contains formaldehyde, even so little as a 50,000th part, it slowly assumes a canary-yellow colour.

I find that human milk (fourth day) reacts similarly to cow's milk.

^a In passing, I may mention that some of these organic compounds have come lately into use as hair-dyes, and have produced unpleasant irritation of the skin and even severe dermatitis—*e.g.*, aureole (contains metol, amidophenol-chlorhydrate, and monamido-phenylamine), which is applied to the hair in conjunction with H₂O₂ ("oxygenated water"). Another chemical (chlorhydrate paraphenylenediamine) is sold in solution as a hair-dye, under various names, with an accompanying bottle of "oxygenated water." They are doubtless efficient dyes (dark brown to violet black), but are liable to set up acute oedematous dermatitis.—*Trans. Amer. Dermat. Assoc.*, 1903.

This test can also be readily applied to meat broth or meat jelly.

If a few crystals of amidol are shaken up with meat broth (or liquefied jelly) which contains formaldehyde the liquid turns yellow, deepened by ammonia.

Non-formolated broth assumes with amidol a dark rose colour, turning deep blue with ammonia.

I have observed that a simple watery solution of amidol is turned sapphire blue by ammonia.

ART. XIX.—*Clinical Report of the Dublin (Rotunda) Hospital for Poor Lying-in Women, for the Year ending November 1st, 1903.** By R. D. PUREFOY, M.D. Univ. Dubl., F.R.C.S.I.; Master.

(Continued from page 348, and concluded.)

ACCIDENTAL HÆMORRHAGE.

DURING this year no case of severe accidental hæmorrhage came under treatment. But I desire once more to point to the results which we have obtained in this and in former years by the judicious use of the vaginal tampon, which controls bleeding, and in a few hours initiates uterine action, the absence of which forms the chief source of danger to the patient's life. This mode of treatment is not a new suggestion; it is fully described in Spiegelberg's admirable treatise on obstetrics, as well as the risk (which I believe to be greatly exaggerated) of internal bleeding following its adoption. But it is not too much to say that the teaching and practice of it as carried out in the Rotunda Hospital mark a very important epoch in the successful management of this most formidable complication of labour, and the results shown in our Reports furnish evidence in its favour which no intelligent obstetrician can afford to disregard.

* Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, January 8, 1904.

TABLE NO. X.—*Accidental Hæmorrhage.*

Name	Age and Para	Date	Variety	Treatment	Result to Child	REMARKS
1. M. J. G.	27, VI.	July 25, 1903	Mixed	Tampon	Dead	Local signs of bleeding before it became visible; more than 1 lb. of clot with placenta.
2. E. C.	30, IV.	May 4	External	—	Alive	Bleeding before admission. Delivered naturally.
3. R. M.	30, VI.	Mar. 5	Mixed	—	Dead	Delivered naturally.
4. K. K.	24, II.	" 12	"	Rupture of membranes	"	Six months' pregnancy; temp. on admission 95.2° F.
5. E. F.	36, VI.	" 26	"	"	"	Uterus persistently tense, and fetal parts impalpable some hours before delivery.
6. M. C.	30, VIII.	Feb. 1	"	"	"	—
7. A. T.	26, IV.	Nov. 22	External	Forceps; rupture of membranes	"	Head free above brim, so that lock of forceps was within vulva.
8. E. M'A.	33, I.	" 27	"	Forceps	Alive	Placenta degenerated.
9. E. M'D.	39, III.	Sep. 10	"	Tampon	Dead	6½ months' pregnancy.
10. C. M.	28, VI.	" 16	"	"	Alive	6½ months' pregnancy.
11. E. K.	29, IV.	Jan. 17	Mixed	—	"	Fatty degeneration of placenta. Child syphilitic. Delivered naturally.
12. C. H.	26, V.	Nov. 26	Concealed	—	"	Delivered naturally; large retro-placental clot.
13. B. R.	25, II.	Sept. 4	External	—	—	Twins; macerated; smart ante-partum bleeding.

POST-PARTUM HÆMORRHAGE.

We have to record nine cases of severe *post-partum* hæmorrhage, and amongst these I grieve to add one ended fatally—the only death from this cause which occurred during my Mastership :—

CASE I.—The patient E. M., aged twenty-one, 2-para, was admitted, apparently in good health, February 16th, and labour was completed in about eleven hours unaided. The third stage was very short, only five minutes, and was followed by considerable bleeding, which ceased when some portions of membrane were removed by curette and hot douche. The uterus contracted feebly, and twice ergot was administered and the binder applied. About twenty minutes later there was some return of bleeding, and rapid collapse set in, to avert which injections of ether and strychnin, followed by saline transfusion, were unavailing, and death occurred about two and a half hours after delivery.

CASE II.—E. B., aged thirty-three, 8-para, was admitted July 12th. Labour was unaided, though very slow, during the first stage especially, and attended with so much suprapubic pain that morphin was twice administered hypodermically. The third stage was of moderate duration and unattended with hæmorrhage. About two hours later considerable loss of blood occurred, and it continued after some clots had been expressed and good uterine contraction established. The vagina was explored, and a rent in the anterior vaginal fornix was found. A very hot uterine douche was administered and the vagina tamponed. The patient was very prostrate for some hours, but a very good convalescence, without pyrexia, followed.

CASE III.—Secondary hæmorrhage occurred on the fourteenth day after delivery in the case of M. H., aged twenty-six, 3-para, who had passed through a normal puerperium, and had left the hospital on her eighth day. When the bleeding occurred she was re-admitted, and, on examination, a sessile tumour, with broad base, was felt by the finger projecting from anterior uterine wall. A hot douche and light use of the curette were followed by rapid restoration to health.

CASE IV.—Concealed *post-partum* hæmorrhage occurred two

hours after delivery in the case of M. R., aged thirty-six, 5-para. The third stage had lasted only eight minutes. The usual treatment was successfully used. In two instances marked retroversion occurred soon after delivery, attended with troublesome loss, which ceased when the uterus was douched and replaced. Marked hypertrophy and prolapse of cervix was observed in two cases attended with moderate *post-partum* bleeding.

CASE V.—In the case of M. M., 1-para, aged twenty-two, troublesome bleeding occurred from a rent in the vestibule, where a spouting vessel was observed; it was controlled by passing a ligature under it.

Irregular contraction of the lower uterine segment, causing retention of placenta, was attended with considerable loss in two cases. In six cases calling for manual removal of the placenta severe *post-partum* bleeding took place; and seven cases of forceps delivery were complicated with *post-partum* hæmorrhage. In many of these cases bimanual massage of the uterus proved to be of great use in restoring efficient contraction.

MORBIDITY.

Morbid temperature occurred in two cases of *post-partum* hæmorrhage, in five of manual removal of placenta, in two cases of abortion, in three breech cases, in two cases of fibroid uterus, in eleven forceps cases, and in four cases of *ante-partum* bleeding. Of the patients under the first heading—viz., 100.8°–101.2°—twenty showed one rise of temperature during an otherwise normal puerperium, and no treatment was adopted. In two there was a very protracted first stage, owing to rigid os. One was a case of accidental hæmorrhage, and the rise occurred only on 11th and 12th days; one was a case of delay with hæmorrhage in third stage, requiring manual removal of placenta. Highly albuminous urine was present, with cedema of abdominal walls in one case. In two cases the nipples were cracked and painful, and in another a bruised unhealthy state of labia attended with non-union of perineum, was present. In a few others a uterine douche was sufficient.

Between 101.2° – 102.2° there were nineteen cases, in which one rise occurred, but there was no need for treatment. In fifteen the uterus was douched and curetted, generally with the result of removing some unhealthy contents. In one a macerated breech presentation had occurred; in one the vaginal wall presented a deep tear. In a case of placenta prævia influenza was the cause of temperature. In a case of hydramnios, with œdema of limbs and albuminous urine, the temperature ran up on the 14th, 15th and 16th days, and the uterus was drained with iodoform gauze.

Between 102.2° and 104° there were five cases in which one rise occurred and no treatment was needed. Two cases of *ante-partum* hæmorrhage were douched, curetted and drained with iodoform gauze. Two cases of forceps delivery were douched and curetted. In twenty-six cases, including one of breech presentation and two in which manual removal of placenta was necessary, douching and curetting were adopted, followed by speedy convalescence. In one case (elsewhere detailed) death occurred on the third day. One case had been delivered in the lift. Mastitis was present in four cases. In two others bronchitis and pneumonia respectively. In another fits of an anomalous character occurred between 4th and 10th days of the puerperium; the urine contained albumen, pus and blood.

Of the cases which reached 104° and over, two were cases of mastitis, one ending in suppuration; two were cases of decidual endometritis, in one case associated with acute pulmonary phthisis, which ended fatally in four weeks (patient unmarried). In one (see elsewhere) a rash closely resembling that of scarlatina developed on the fifth day, and was followed by desquamation and recovery. One patient who required forceps delivery was much troubled with vomiting during and after labour, but made an excellent recovery. One patient who had suffered from concealed *post-partum* hæmorrhage developed a temperature of 104.5° on the 10th day, up to which time it had been normal; treatment was followed by rapid convalescence. In five cases a very high range of temperature was present for several days; in one of them very loaded bowels, and in another a labial abscess, helped to delay recovery, which, however, followed slowly in all of them.

One other case (described in detail) was suffering from physometra and stinking uterine discharge at time of admission, and died on the 8th day.

CAUSES OF HIGH TEMPERATURE, OTHER THAN SEPSIS.

Mastitis	Bronchitis	Phthisis
Influenza	Pneumonia	Scarlatina (?)

Mastitis was present in one case on the 7th day. Puerperal ulcer was found in one case. One patient on 13th day and two following days had a rigor, with a swollen, painful state of breasts, and this has happened to her in every confinement. Beyond giving 5 grains of quinine nothing was done. Chronic phthisis was present in one case. Retained offensive lochial discharge caused one elevation in one instance. One elevation of temperature occurred after manual removal of placenta in a case where a macerated foetus presented by the breech. Two elevations of temperature followed by speedy convalescence were due to retention of portions of placenta, giving rise to sapræmia and foul, profuse lochia; removal effected by curette and fingers. Five of the patients in this section were delivered by forceps, two of them being cases of persistent occipito-posterior; one a case of twins, in which the second twin was macerated; and one a case of fibroid uterus. In very few of the cases in this section did the abnormal temperature last more than 2-4 days.

TABLE No. XI.—*Morbidity.*

Temperature	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Total
100·8° to 101·2°	1	4	1	2	5	1	1	2	3	8	1	9	38
101·2° to 102·2°	6	3	5	4	2	3	5	5	4	9	5	4	55
102·2° to 104°	1	1	3	3	8	2	4	4	-	8	7	-	41
104°	1	1	2	-	2	-	-	1	1	1	2	1	12
Total per month	9	9	11	9	17	6	10	12	8	26	15	14	146
Percentage per month	7·5	6·4	8·5	7·5	12·9	4·6	7·4	8·2	4·6	17·3	9·4	9·1	

TABLE NO. XII.—*Placenta Prævia*.

Name	Age and Para	Date	Variety	Presentation	Period	Result to Child	REMARKS
1. M. G.	22, III.	Aug. 10	Marginalis	Head	Term	A.	Several bleedings during fortnight before admission; tampon used and vigorous labour pains followed.
2. L. H.	31, VIII.	July 16	Centralis	„	„	D.	No bleeding for some hours after admission; when os was wide enough to admit two fingers podalic version was performed.
3. C. L.	35, IX.	„ 2	„	Breech	7 months	D.	Placenta required manual removal owing to hæmorrhage.
4. A. M'C.	32, VII.	May 2	Marginalis	Head	7 „	D.	Podalic version.
5. M. S.	32, V.	Feb. 4	Lateralis	Breech	Term	A.	Much difficulty in delivering head, as face was anterior.
6. M. W.	38, VII.	Sept. 2	Marginalis	„	„	A.	Tampon used and foot brought down.
7. A. H.	44, IX.	„ 24	—	Head	8 months	D.	Podalic version.

As in the two preceding years, our cases of placenta prævia during this year are free from any maternal fatality. The cases for the three years number 32.

ABORTION.

The cases of abortion and miscarriage were over 60 in number, and in two instances there was an insignificant rise of temperature. In eighteen cases no treatment was needed; in eight the bleeding was severe. Retroversion was observed in two cases; and in three a complete decidual cast was found. It is not a little surprising how uncertain and timid most modern obstetric writers are in giving instruction as to the

treatment of inevitable and incomplete abortion and miscarriage. Masterly inactivity on the part of the physician cannot be too strongly condemned in these cases.

HYDRAMNIOS.

This condition was present in six cases. In one the foetus was anencephalous, and affected also with spina bifida. In one spontaneous version occurred shortly after the escape of the liquor amnii. In Williams' recent work on obstetrics it is dogmatically stated that this interesting process can take place only before the rupture of the membranes.

ERYTHEMA, WITH HIGH TEMPERATURE.

B. B., aged twenty-one, had an easy, natural labour. On the third day the temperature reached 102° , and the pulse 108; the uterus was douched and curetted; nothing abnormal was found. On the fourth day the temperature was again normal. On the fifth evening the temperature was 103° , pulse 110; slight headache; uterine douche again revealed no cause for the symptoms. On the sixth morning the face was flushed, the eyelids somewhat red, and a scarlatiniform rash was evident on the legs, extending up the body, and visible over the sternal region; nausea, slight retching, and sore throat were complained of; though the lochial discharge had been all through healthy, another uterine douche was given as a precaution. Temperature varied between 105° and 103° for a few days, and became normal on the twelfth day. Between the seventh and eleventh days the patient was delirious, and urine and fæces were passed involuntarily. Nephenthe, hyoscin, and bromides were found beneficial at this time. A few pustules appeared on the buttocks about the twelfth day, but soon dried up. On the seventeenth day desquamation began. The urine between the ninth and eleventh days was slightly albuminous. Further convalescence was uneventful. See "Morbidity."

CRANIOTOMY, PHYSOMETRA, COMPOUND PRESENTATION, ADHERENT PLACENTA, MANUAL REMOVAL—DEATH.

M. G., aged twenty-nine, 3-para; admitted with a history of having eight days previously fallen off the tram; the membranes ruptured shortly afterwards. On examination, the os was found closed, cervix unobliterated, and presenting part not fixed. As there was no evidence of labour she was allowed out, but

returned next day having a temperature of 103° , though the pulse was quiet. On examination a foot was found protruding through an imperfectly dilated os, and lying at pelvic brim what was at first thought to be the breech, but proved to be the head. Chloroform was given, and as early escape of liquor amnii rendered version impossible, and an undilated os prevented the application of forceps, delivery was effected by the aid of the perforator and cranioclast. The placenta was morbidly adherent, and required manual removal. It should be added that a putrid discharge was pouring from the uterus all this time. The utmost efforts were made during the following days to restore the uterus to a healthy condition, but douching, packing with iodoform gauze, &c., were all unavailing to prevent death, which occurred on the eighth day.

PRESENTATIONS OTHER THAN VERTEX.

In twelve cases of persistent occipito-posterior presentation the birth of a living child took place unaided. Two brow and three face presentations ended also in the birth of a living child, unaided.

RUPTURE OF UTERUS.

K. G., aged thirty-five, 8-para; admitted on December 27th at 3 30 o'clock p.m. Patient has had a cough for several months; rhonchi and râles can be heard all over chest; tubular breathing in lower lobe behind on the right side. Some days previously she had been visited by a pupil who noticed the chest trouble, but as there was no sign of labour, did not continue to visit her. So far as could be ascertained abdominal pains, attended with retching, had begun on the 25th, but she continued to do her household work on that day. On admission she looked very ill, vomited occasionally dark brown fluid; the respirations were rapid, pulse 124, temperature 98.8° . The urine contained a large quantity of albumen. She slept for two hours after an injection of morphin. On palpation the abdomen was found to be very tender and flaccid; the foetal parts could be felt with unusual distinctness, especially at the fundus, where the cranial bones were felt and heard to crepitate. Per vaginam the cervix was felt to be long and imperfectly dilated; the placenta could be detected in front and low down, attached all round except at left side. I thought I felt a rent in the wall

of the uterus, through which the foetus had escaped into the general peritoneal cavity, but the condition of the cervix and the presence of the placenta made an exact opinion very difficult. With much trouble I reached a foot, which was very high up, and brought it down into the vagina. Some hours later the pulse was 120, temperature 100.6° ; no vomiting had occurred since. Chloroform was given and delivery completed. The placenta was detached and drawn down by the funis. The uterus, fairly contracted, lay to right of mesian line; a deep longitudinal tear was felt extending up from junction of vagina and cervix for a considerable distance. The intestines were not perceptible. After copious douching iodoform gauze was placed in rent and partly in uterus and vagina. Strychnin and digitalin were given hypodermically, but to no purpose, and the patient died about four hours later.

Though I do not believe any treatment could have saved this poor woman's life, I freely admit the rational treatment, at any rate by daylight, would have been to deliver by abdominal section, followed by either removal of the uterus or an attempt to repair the rent.

Other questions of great interest in this case are :—(1) What caused the rupture? and (2) When did it occur? So far as I know the previous labours had not been difficult, and there was no ground for suspecting pelvic contraction. There was no history of violent pains during the few days preceding her admission; nor of any traumatism arising from a fall or a blow. As to the time of its occurrence, I should conjecture that it was probably twenty-four hours before she came into hospital.

RUPTURED VAGINAL FORNICES.

M. C., aged thirty-five, 7-para; admitted January 20th, 1903, shortly after midnight, with a history of the membranes having ruptured on the previous day. The os was dilated sufficiently to admit one finger, and the head could be felt lying on the pelvic brim, but not engaged in the cavity; foetal heart 144. She was having occasional pains of moderate strength; she was given 30 drops of laudanum. Some hours later, as she did not appear to be making advance, an examination was made; the os was found to be two-thirds dilated, the head still

lying at the brim. She was now having good pains, and, as the progress of labour was so slow, it appeared wise to give her some assistance, especially as the high position of the hand rendered it very difficult to make out exactly its position. Though the patient's pulse had become somewhat quicker, the foetal heart was the same as before, and between the pains the uterus was quite relaxed. At 3 o'clock p.m., just before the administration of chloroform, I palpated the belly, and was shocked to find that the foetal parts could be felt with startling distinctness, and on again listening for the foetal heart it could not be heard. No complaint of unusual pain had been made, and nothing in her aspect suggested the terrible lesion which had thus so suddenly occurred. Internal examination showed that the head was on the perineum. Delivery was immediately effected with the forceps, and was followed by moderate bleeding; the uterus became perfectly contracted. As the placenta did not come away, the hand was passed into the vagina, when it was found that the right and anterior vaginal fornices were torn through, and the hand passed up between the layers of the broad ligament. When the left side was explored it was found that the peritoneal cavity was opened, and the placenta was lying in it. After its removal iodoform gauze was passed into the rent and some left in the vagina. At this time the pulse was good, but before long it became much diminished in force and increased in frequency; the temperature did not fall. The child weighed ten pounds, and the promontory was observed to be very sharp. On the following day the pulse was still more rapid and feeble, the temperature had risen to 101° , and the poor woman died about forty-eight hours from the time the rupture took place.

There are many points of great interest and importance illustrated by this case:—

1. The need for careful watching, and often for early interference in cases, especially multiparæ, where the presenting part fails to engage in the pelvis soon after the advent of labour pains and the escape of the liquor amnii.

2. The difficulty which may for a time attend the diagnosis of rupture. In this instance I was guided to this conclusion by the results of palpation and the sudden cessation of the foetal heart.

The ordinary signs and symptoms of collapse were absent till some time after delivery. In Dr. M'Clintock's admirable paper on rupture of the vagina he points out (a) that it occurs most frequently with head presentations; (b) when the head is in the pelvis; (c) where some bony projection is present in the pelvis; (d) the vomiting of dark coloured fluid is generally absent; (e) the foetus generally escapes into the peritoneal cavity.

The *post-mortem* conditions showed that cœliotomy would have been unavailing.

Dr. Neville made a *post-mortem* to the extent of ascertaining the exact nature of the local lesions. He found that both vaginal and uterine ruptures were more extensive than was anticipated. For the greater part of its course the uterine rupture, occupying the cervical and lower uterine regions, simply opened into the folds of the right broad ligament, into which had escaped a small amount of blood. But at its highest point this rupture somewhat altered its direction and was here complete—i.e., had opened into the peritoneal cavity posteriorly. The vault of the vagina laterally and partly through Douglas' space was deeply torn, to the extent of opening through the latter into the peritoneal cavity, while the vaginal wall in its upper and posterior third was deeply fissured. The resulting hæmorrhage, as evidenced *post mortem*, was slight in extent, and Dr. Neville did not think that the lesions revealed were such as could have been efficiently dealt with by any operation. Signs of commencing peritonitis also existed.

Decidual endometritis was observed in two cases, both 1-paræ, aged respectively seventeen and twenty-two years. In both a somewhat firm growth on inner surface of uterus could be felt with finger and curette; if handled roughly it bled, and its connection with uterus was too firm to allow of its removal. A high range of temperature prevailed in both patients, but steady improvement followed douches and draining with gauze. In the case of L. S., though the uterus became healthy, the pulmonary phthisis from which she was suffering ended fatally six weeks after her confinement.

PHLEBITIS.

This affection was present in four patients, but in only one was attended with any rise of temperature, and then only for three days. She was a very delicate 1-para, aged twenty-five, admitted April 8 from Mercer's Hospital, suffering from ascites, caused by chronic kidney disease. Labour came on when pregnancy had lasted only $8\frac{1}{4}$ months; the child was very small, and natural efforts effected delivery. Owing to the dropsy, manual removal of placenta became necessary.

MITRAL DISEASE, BRONCHITIS—FORCED DELIVERY.

M. C., aged twenty-five, 1-para, admitted May 14th at 7 a.m. She had been confined to bed for some months owing to mitral valve disease and bronchitis; the pulse was quick, feeble and irregular; there was great distress in breathing and orthopnoea. Pains were fairly regular; os about the size of a five-shilling piece, and head low in pelvis; her face was pallid and lips cyanosed. The dyspnoea and heart's action grew steadily worse, and at 10 o'clock it was manifestly impossible for her to continue the struggle much longer. Though she could not lie down, I succeeded in passing the forceps through the still very imperfectly dilated os, and applied gentle traction; but while doing so matters became so much worse that the patient was at the point of death, so I perforated the head, and delivery was speedily completed. The presentation was occipito-posterior. With the emptying of the uterus a marvellous degree of relief was obtained; in half an hour afterwards the patient was able to lie down, and a favourable puerperium followed, delayed a little by phlebitis in the right leg.

In some of my previous Reports will be found notes of cases in which pregnancy was complicated with organic cardiac disease, in which compensation was so imperfect that even so early as the sixth month the patient was unable to lie down in bed, her sufferings having become steadily aggravated in each pregnancy. In all of these premature labour was induced with the best results. With my knowledge of these facts I am at a loss to understand how good, practical obstetricians, such as Winckel, can advise against this mode of treatment.

CASES OF APHONIA.

CASE I.—S. D., aged twenty-eight, 3-para. Without any apparent cause patient lost her voice shortly after labour began; and the condition was even more marked some hours later. Aphonia had occurred during a former confinement also, beginning about the same time, and persisting for some days. On this occasion the voice became more audible on the second day of the puerperium, and was almost of its ordinary strength on the fourth day.

CASE II.—E. L., aged twenty-nine, 5-para; became quite aphonic on the day following her delivery, and remained so for several days. She had a similar experience on several former occasions at the conclusion of pregnancy.

CASE III.—K. B., aged thirty-two, 7-para. Patient was conscious of her voice becoming weak a few days previous to her admission to hospital. After delivery she could only speak in a whisper. She has had a similar experience on two former occasions.

ENLARGEMENT OF THYROID (?) GLAND IN AN INFANT.

CASE—M. K., 2-para, gave birth to an infant which presented marked enlargement of thyroid, involving isthmus and both lobes; respiration was difficult, owing, apparently, to the pressure caused by the enlargement. Patient states her first infant suffered similarly, but the trouble disappeared in a short time.

CUTANEOUS AFFECTIONS.

Cases of the above observed during the year were few in number and not of any special interest. Two examples occurred of extensive pigmentation of the abdomen, such as sometimes follows the use of arsenic. As in former years, two forms of erythema were observed, and two very trifling cases of pemphigus in infants. In six instances patients were affected with troublesome acne on the chin and nose. This had occurred in successive pregnancies, and generally subsided after delivery. One infant presented a copious papular syphilide on arms, but not on face; and one mother was admitted suffering from general psoriasis.

DECIDUAL ENDOMETRITIS.


CASE I.—C. P., 1-para, aged seventeen, stated she was in good health during pregnancy; gave birth to a living infant after an easy labour. On the third and following days there was a considerable rise of temperature and pulse, and on exploring the uterus a firm growth was found, especially developed at the fundus and right cornu. It was not possible to detach it thoroughly with either finger or curette, and any attempt to do so was followed by bleeding. Copious douching of the cavity was practised, and it was then packed with iodoform gauze. This proceeding was repeated on several occasions; and convalescence though tardy was satisfactory.

CASE II.—L. S., 1-para, aged twenty-two; labour was natural; child alive; a few days afterwards there was considerable pyrexia, and on examination the cavity of the uterus was found occupied by a firm growth, closely adherent to the uterine wall, from which it could not be detached without violence, except in small fragments. Douching and packing with iodoform gauze were tried, but without any appreciable effect on the temperature and pulse. These latter, however, were no doubt aggravated by pulmonary phthisis, of which signs became observable during the first week of the puerperium, and which proved fatal in six weeks from the birth of her infant.

ART. XX.—*Traumatic Rupture of the Spleen, followed by Recovery.* By PERCY N. GERRARD, M.D. Dubl.; District Surgeon, Sélángor, Federated Malay States.

A CHINESE, aged fourteen, was brought into hospital at 12 15 p.m. on May 20, 1900, with a history of having been run over by a four-wheeled hackney carriage at 11 30 a.m. that morning. His symptoms on admission were all those of severe internal hæmorrhage: he was blanched, his pulse rapid and hardly perceptible, breathing rapid and shallow, pupils dilated. He had smart hæmoptysis of brilliant oxidised blood mixed with some bronchial froth. He exhibited on inspection the usual grazing contusion, marking the passage of a wheel obliquely across the abdomen from left to right, starting immediately over the 10th rib in mid-axillary line, and from that point to and over a point 2 inches internal to the right nipple. On his back a scraped wound over

the angles of the 9th and 10th ribs evidenced the position of maximal counter-pressure. His other wounds were a contusion over the right parietal bone, and a lacerated wound of the right hand, transverse fracture of 3rd and 4th ribs on right side just internal to nipple line.

On inspection of the abdomen at the time of his admission as he lay on his right side, in which position he was placed at his own request, the abdomen was markedly pendulous towards the right giving the belly a right-angled triangular appearance  with the base resting on the bed, the perpendicular being formed by the patient's back. This triangular appearance, although due, no doubt, to the intestines in some degree, was, I consider, to a greater extent due to effused blood in the peritoneal cavity, which view was subsequently supported by the physical signs on percussion.

Percussion of the thorax showed a dull area corresponding to the lower lobe of the left lung, a slight hyper-resonance of the apex of the same lung, an increase upwards of the precordial dull area to the third interspace, passing backwards and becoming merged in the dulness over the lung. Abdominal dulness was present over the splenic area from behind forwards almost to the nipple-line, then with an interval of intestinal resonance passed from the mid-abdominal line absolutely dull downwards to the right side of the abdomen.

Auscultation over the precordial area revealed very indistinct cardiac sounds, heard with difficulty, and an extremely rapid action, without, however, any perceptible endo- or exo-cardial adventitious sounds. Over the posterior portion of both lungs, but more marked on the left side, innumerable large moist râles were heard, and similarly over both apices, but fewer and less marked.

The first lesion to suggest itself, more especially in a tropical country, was rupture of the spleen, which I diagnosticated and still believe to have occurred. The next question, as to immediate laparotomy, was not so easily settled, on account of the condition of the lungs and its bearing on the question of chloroform administration, and further in view of the difficulty of sterilising the abdomen in any way satisfactorily in a brief period of, say, a quarter of an hour. Then, again, the disturbance of the patient involved, also the position of the external lesion with the probability of cardiac contusion; and, lastly, of considerable

weight came the fact of the hæmoptysis and the colour of the blood voided *per oram*.

I decided, therefore, on the above premises, that operation would be dangerous and disturbing to the patient, and might probably be ultimately unavailing on account of the contusion of the heart and lung.

The treatment adopted was purely palliative: liquid extract of ergot. \mathfrak{m} xx., with tincture of opium \mathfrak{m} xx., was immediately exhibited, and repeated in half doses every hour until the opium showed its physiological effect; iced compresses, changed every three minutes, were applied from the spine over the abdomen covering the splenic area and across to the right side; an enema of one pint of normal saline solution was given promptly and half this quantity was repeated every hour, no stimulant of any kind being given by the mouth.

About an hour afterwards a sharp attack of vomiting occurred, which caused such marked distress and weakness that a hypodermic of half a drachm of ether had to be administered.

At four o'clock in the afternoon, $4\frac{1}{2}$ hours after the accident, the condition having improved, and hæmorrhage apparently being under control, soup alternating with milk and small doses of brandy were administered every four hours. At the same time iron and digitalis were added to the mixture and the doses of ergot and opium were reduced to \mathfrak{m} v. every two hours.

Thedulness on the right side of the abdomen rapidly decreased, and on the 31st of May—i.e., five days after the injury—had disappeared completely.

The temperature chart exemplifies sufficiently well the action of fibrin ferment during absorption as a pyrogenetic substance, and cannot be regarded, I consider, as typical of any form of malarial fever. Although in the hurry consequent on his condition on admission I omitted to examine the blood microscopically, yet I do not regret the fact as it would not be any positive proof of the plasmodium being the cause of a fever of such irregularity as that shown in this case. Again, I may mention that the morning after his accident I gave quinine thrice daily to obtain its prophylactic action and thus indirectly hasten recovery. June 3rd, when I entered the ward, the patient was sitting up in bed trying to read his summons to attend Court as a witness in the case of the man who ran over him. His colour is now excellent, and he is very pleased with himself. The area of splenic dulness

is still enlarged downwards and inwards, the spleen being distinctly palpable as far forward as the nipple line and 1 inch below the costal arch. His left side has not yet regained its roundness, and it is probable that a greenstick fracture of his 6th and 7th ribs is present. A systolic murmur is audible over the apex which is not well transmitted.

The subsequent history of this case calls for no remark. With returning strength the heart sounds became normal, and he left hospital in good health on June 13.

VACCINATION AGAINST TUBERCULOSIS.

PROF. EDOARDO MARAGLIANO (Genoa) deals fully with tuberculosis and vaccination (*Medical News*, New York, April 2nd, 1904). In the course of his paper he says:—"I have lately studied a method for man that is very promising and easy of attainment. I was led to this by what I had observed in my studies of the efficacy of the dead bodies of the bacilli in the production of immunity; and I took as a key-note this fundamental principle: *Create a peripheral focus of tuberculous inflammation without living tubercle bacilli and bring about by this means the active production of defensive materials. In this way a true vaccination may be practised.* I have adopted such a method in man, after having controlled it in animals. In the animals treated in this manner I had the usual results—that is, resistance to the culture of living bacilli, the production of defensive materials, and a high agglutinating power. In man I have observed analogous results, with the exception of the resistance to living bacilli, which I have not proven. I will tell you in detail what happens. The part used for the injection is the same as in Jennerian vaccination—the arm. A superficial subcutaneous injection, but exceedingly superficial, is made in the arm with a small quantity of vaccine material." This is followed by 2 to 3 days slight fever; and a small abscess, which is limited and completely sterile, follows; this may require 3 to 4 months to completely heal. In the meantime the blood shows a progressive increase of agglutinating power.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Squint Occurring in Children. An Essay by EDGAR A. BROWNE, F.R.C.S. Ed.; assisted by EDGAR STEVENSON, M.D. With 5 Illustrations. Crown 8vo. Pp. 74. London: Ballière, Tindall & Cox. 1904.

THE author, in his preface, tells us that the essay under review is an expansion of an Address delivered before the Medical Society of Liverpool in 1902. It deals only with the concomitant convergent squint of childhood, and, omitting all varieties of muscular abnormalities that are to be met with in practice, it may be regarded as an account of squint reduced to its simplest expression. Novelty is nowhere aimed at, and care has been taken to state only facts and phenomena and modes of treatment that have been verified by reiterated observation. After an interestingly-written introduction comes a chapter on "The Natural History of Squint." This he divides into five stages:—(1) Potentiality; (2) Periodicity; (3) Fixed Habit; (4) Permanency; (5) Secondary Periodic.

The next two chapters are on "The Cardinal Symptoms of Squint," and after a thoughtful examination of the Amblyopia ex anopsiâ he sums up as follows:—

"Beginning with an undeveloped and imperfect instinct for clear definition and binocular fixation, the eye, after it has been tilted beyond the required point, is still further deprived of its education. From having an occasional, albeit perhaps a blurred, view of its object, it becomes indifferently directed on space, and is, so far as its macula is concerned, unemployed. If we hold that the education of the centre goes on correspondingly with that of the peripheral sense-ending, we shall understand that the deprivation of the macula has a deteriorating effect upon it, and upon the whole organ concerned in the perception of

minute form, such as is involved in the act of reading ordinary type. And, therefore, an amblyopia beginning in an imperfect or retarded development, and assisting in the promotion of squint, may be intensified by depriving the macula of its necessary education, and thus the order of sequence is changed, and the original cause occupies the position of a secondary effect. The two views of the relation of the amblyopia to squint appear to be not contradictory but reconcilable, and are each in a sense accurate according to the stage of the squint at which the observations are made." The essence of squint is, he says, a failure on the part of the peripheral sense-organ to inform its cerebral centres of its requirements.

The chapter on "Obstacles to Success" is deserving of consideration, and is followed by that on "Treatment," where he strongly urges the advantages of educative as against operative methods. An appendix on bi-manual drawing is added, in which he advocates the more extended use of the blackboard in the treatment and instruction of squinters.

This admirable little book is written in Mr. Browne's easy, educated style, and is full of common-sense reasoning on accurate observation. We can entirely recommend the Essay to all who take an intelligent interest in the subject.

Text-book of Histology, including the Microscopic Technique. By PHILIPP STÖHR. Translated from the Tenth German Edition by DR. EMMA L. BILSTEIN. Edited, with additions, by DR. ALFRED SCHAPER. London: Rebman. 1904. Pp. 485.

THIS is the fifth English edition of this excellent text-book. In noticing the third edition, translated from the eighth German edition, and which appeared in 1901, we expressed our high opinion of the value of the work, and our appreciation of the service which the translator and editor had conferred on English-speaking students by producing this version. It will be remembered that the English edition is much more than a mere trans-

lation, as the editor, Professor Schaper, has made very extensive and valuable additions to the German text, and increased the number of illustrations by many excellent drawings.

In comparing the edition before us with that of 1901, we find that it contains 53 additional pages, and that the illustrations are increased from 301 to 353. Many of these are now coloured, and they form a very beautiful histological atlas, such as was not to be had a little time ago. Besides many lesser additions and alterations, this edition has five new chapters—1. On the Form of Glands, based on the Investigations of Maziarski; 2. The Spleen, based on the Researches of Weidenreich; 3. The Urinary Bladder, based on the Researches of Lendorf; 4. The Seminal Passages, based on the Researches of Felix; and 5. The Development of the Hairs, based on the author's own Researches. Additions have also been made to the sections on technic, dealing chiefly with the use of formal.

On the whole, we can say that the work is of the highest excellence, and is certainly one of the best text-books of histology at present in existence.

That this opinion is generally held is shown by the rapidity with which new editions are called for. The first German edition appeared in 1886, so that there has been an average of more than one edition every two years since its publication. It has been translated into Italian, French, and Russian, as well as into English. A comparison of the successive editions will show how well they have kept pace with the advance of knowledge.

Of such a work, then, we need say no more than that we heartily recommend it to all who are interested in human histology.

The General Pathology of Inflammation, Infection, and Fever, being the Gordon Lectures for 1902. By E. W. AINLEY WALKER, M.A., M.D. London: H. K. Lewis. 1904. Pp. 260.

THE design of these lectures was, the author tells us, "to provide such information on the subjects dealt with as is

required by intending graduates in medicine at the universities, and by others who desire a more detailed knowledge of the phenomena in question than is usually supplied in the current text-books or in routine teaching." They were originally delivered at Guy's Hospital under the provisions of the Deed of Endowment of the Research Lectureship and Laboratory, established by Mr. Robert Gordon, and were subsequently published in the *Clinical Journal*, and, "in response to numerous suggestions and enquiries," now appear in book form.

That the author has done wisely in publishing them in this collected form we cannot doubt. The subjects with which they deal are among the most important in the entire range of pathology. Our views on them have undergone the most fundamental changes in recent times, and, although our present ideas cannot be looked on as final, yet they are sufficiently definite to justify a systematic statement. Such a statement, clearly made in the critical spirit of one who is a master of the subject, and who by his own work has materially advanced our knowledge of it, will be found in these Lectures.

The first four Lectures deal with Inflammation, the next five with Infection, and the three last with Fever.

They are all written in an animated and impressive style, and may be taken to represent in the most adequate manner the current opinions held on the subjects of which they treat.

The little volume is gracefully dedicated to Sir J. Burdon Sanderson, whose name is scarcely less honourably associated with pathology than it is with physiology. The work has two good indices, of subjects and of names of authors quoted, respectively. We can most cordially recommend it to all our readers.

Thirty-Ninth Annual Report of the Boston City Hospital.
Boston. 1903. Pp. 190.

WE have received a copy of the "Thirty-Ninth Annual Report of the Boston City Hospital." It gives numerous elaborate tables of the medical and surgical cases. It also

sets out the hospital expenses and a list of donations, and conveys much information that tells of a good deal of work in the medical and surgical departments. But it contains no medical papers, nothing calculated to interest the physician or surgeon. This is much to be regretted, as there is more than sufficient material to allow of such being produced.

Clinical Studies in Syphilis. By ARTHUR H. WARD, F.R.C.S. (Eng.); Surgeon to the London Lock Hospital; Clinical Assistant in the Dermatological Department of St. George's Hospital. London: *Medical Times, Ltd.* Pp. 156.

IN his preface the author states that this work is mainly drawn from his own personal experience, and he gracefully acknowledges that where this has been wanting, he is indebted to the researches of Sir Alfred Cooper, Mr. Jonathan Hutchinson, Professor Fournier, Messrs. Bumbsted and Taylor, and to his personal teacher, the late Mr. Berkeley Hill.

This little book is well arranged, well written, and the descriptions of the various phases and phenomena of syphilis "hall-mark" it all through as the work of a man who writes from personal, accurate, and intelligent observation; written from practice, and not, as is too often manifest in modern publications, for practice!

His description, at page 17, of the primary lesions in w men is a most valuable one, as these lesions in the female are more variable in character, and often more difficult of being recognised than in the opposite sex; besides, the scanty opportunities afforded to students of seeing and studying these lesions in women before entering upon general practice is a common source of doubt, perplexity, and fatal delay in arriving at a correct diagnosis of their true significance. In reference to this subject he suggests that the multiple hard sores ("button sores") will be due to infection through the semen. Although it has been denied that this fluid can be the vehicle through which local infection may take place, the suggestion of the author is one

which our experience fully justifies. He adopts the microbe-toxin theory of the origin of syphilis, from the parallelism of the lesions of syphilis with those of other diseases of undoubtedly microbic invasion, notwithstanding the unfortunate absence, as yet, of the identification of the microbe peculiar to it. Mr. Arthur H. Ward may justly be complimented upon having contributed a concise, useful, and marvellously comprehensive work upon a vast subject within the limits of a very small volume, with a complete index to its contents which renders it a valuable addition as a book of reference, particularly to the library of anyone engaged in general practice.

A Guide to Urine Testing. For Nurses and Others. By MARK ROBINSON, L.R.C.P., L.R.C.S. Ed. Second Edition. Bristol: John Wright & Co. 1904. Pp. 56.

AN excellent little guide—short, concise, and accurate, the author having with great self-restraint avoided giving more than nurses and junior students should know.

The Treatment of Fractures, with Notes upon a Few Common Dislocations. By CHARLES LOCKE SCUDDER, M.D.; Surgeon to the Massachusetts General Hospital. Fourth Edition, thoroughly revised, with 688 Illustrations. London: W. B. Saunders & Co. 1903. Pp. 534.

ONLY twelve months have elapsed since we reviewed the third edition of this important work, consequently it is quite unnecessary to enter into any lengthened criticism of the volume at present before us. To have to issue a new edition every year emphasises the popularity the book enjoys. The present edition has an added chapter on "Notes upon a Few Dislocations," but, in our opinion, it is, though well illustrated, too short to be of much value. The chapter on the "Röntgen-ray and its Relations to Fractures" is an excellent one. It seems surprisingly strange to us that four editions of a treatise should appear "thoroughly revised," and that each should contain a glaring error at page 19. It is as follows:—"If there is pressure upon the third nerve

at the base of the skull, dilatation of the pupil upon the side *opposite* to the pressure will be noticed. This pupil will not react to light." Why should the pupil on the affected side dilate? That such an error should be permitted in successive editions scarcely speaks well for the thoroughness of the revision. Irrespective of this we can commend the book.

The Bacteriology of Every-day Practice. By J. ODERY SYMES, M.D. (State Medicine) Lond., D.P.H., &c.; Assistant Physician and Bacteriologist, Bristol General Hospital. Second Edition. Medical Monograph Series, N. 2. London: Baillière, Tindall & Cox. 1904. Cr. 8vo. Pp. 108.

THE object of this number of the Medical Monograph Series, which Dr. David Walsh is editing for Messrs. Baillière, Tindall & Cox, is to put medical practitioners and medical students in possession of practical information relative to the elementary methods of bacteriological investigation. The notes on which Dr. Odery Symes has based the present monograph were originally compiled for the use of clinical clerks in their ward work, with a view (1) to point out in what cases bacteriological examination might help in clinical diagnosis; (2) to describe methods of securing and identifying microscopic specimens such as a student could himself prepare; (3) to give directions for taking cultures and for preserving tissues to be sent to the laboratory.

In a preliminary chapter the author describes the materials and instruments which are required for the making of cover-glass preparations or of cultures. The second chapter is devoted to the preparation and staining of films and the inoculation of culture media. Then follow, in succession, chapters on discharges and suppurative processes, general infections, diseases of the respiratory, alimentary, and genito-urinary systems, diseases of the skin and hair; and, finally, a chapter on serum therapeutics. In an Appendix Dr. D. S. Davies tells what sort of a microscope should be used, and how it should be used, in

bacteriological investigations such as are described by Dr. Symes.

The second edition of the work has been largely rewritten. To it sections have been added on the preparation and staining of blood films, meningitis, trypanosomiasis, influenza, and diseases of the alimentary system.

The illustrations are the weak point in this book; but from this adverse criticism we must exempt the beautiful drawings of trypanosomes in cerebro-spinal fluid at page 71.

The Practice of Obstetrics, designed for the use of Students and Practitioners of Medicine. By J. CLIFTON EDGAR : Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College; Attending Obstetrician to the New York Maternity Hospital. London : Rebman, Limited. 1903. Demy 8vo. Pp. 1111. 1,221 Illustrations.

WE heartily congratulate Dr. Edgar on the successful completion and publication of his large volume on the "Practice of Obstetrics." The nature of the undertaking can be estimated from the fact that the book contains more than 1,100 pages and over 1,200 illustrations. In the latter respect, it is perhaps the most complete of the numerous American works on obstetrics.

In view of the enormous labour which the preparation of the book has obviously entailed, we do not like to criticise it adversely, but, try as we will to see its value, we confess that we are not altogether able to do so. At the same time, we may freely confess that we are not positive as to what it is that renders the book disappointing. The book has been described in a contemporary review as "the most comprehensive treatise on the science and practice of midwifery that has as yet appeared," and perhaps it is the fact that the book *looks* as if this description ought to be correct that causes the disappointment. Dr. Edgar has clothed in the garb of a treatise on obstetrics a book which, as he himself says, is a "Practice" of obstetrics, and the result is incongruous. A treatise is, as we understand it, a descriptive and critical work on a subject. Dr. Edgar's

book is a mass of facts and statements without the criticism. A treatise contains the means of verifying its assertions or its references to the work of others. Dr. Edgar's book contains at most some hundred references. For these reasons, we think that the book cannot be regarded as a treatise. The claim to be a good practice of midwifery is also open to criticism. It is far too long, and contains much that should be confined to a treatise. It deals in undue detail with matters of slight practical importance, and, on the other hand; sometimes slips too easily over important practical points. In short, we fear that we must come to the conclusion that it is neither a good treatise nor a good practice. It is too vague to be the former; it is too complex to be the latter. At the same time, it has its place in obstetrical literature, and we think fills that place very well. It is a magnificent obstetrical picture-book, and contains illustrations of almost every point in midwifery that requires illustration. It is also a very fairly complete digest of facts and recently expressed opinions, and to the man who does not require their verification will prove of value. The general manner in which the book is printed and the illustrations are produced is excellent, and the publishers are to be congratulated on their share of the work.

Vaginal Tumours, with Special Reference to Cancer and Sarcoma. By W. ROGER WILLIAMS, F.R.C.S.
London: John Bale, Sons & Danielsson. 1904. Demy
8vo. Pp. 92.

THE book before us represents in the main two papers, one on vaginal carcinoma, the other on vaginal sarcoma, which have been already published by Dr. Williams. They have, however, been corrected, and chapters dealing with the other vaginal neoplasms added. We are glad to see that in his article on vaginal sarcoma Dr. Williams has dealt with deciduoma malignum as a distinct subject, instead of incorporating it with the sarcomata. The fault of the book is that it is too short, and that it is not sufficiently systematically written. A monograph on the subject

chosen by Dr. Williams is very badly needed, and we hope that in his next edition Dr. Williams will enlarge the present book very considerably. These tumours are for the most part of great rarity, and Dr. Williams would do well to add illustrations, in as many cases as possible, of the different forms in which the various vaginal tumours are met.

We do not desire to enter into a field of criticisms, which is not in our province, but we would suggest to the publishers, whom we presume are responsible, that "five shillings and sixpence, net," is a large price for a book of 92 pages, containing five indifferent illustrations, and bound in stiff boards.

Aids to Surgery. By JOSEPH CUNNING, M.B., B.S., F.R.C.S. Eng.; Senior Resident Medical Officer Royal Free Hospital. London: Baillière, Tindall & Cox. 1904. Pp. 394.

THIS little book is intended as a help for students preparing for examinations. Used in conjunction with a recognised text-book on the subject it would not be without some merit, but it is questionable whether the temptation of endeavouring to "slip through an examination" on the information contained in this volume should be placed within the student's reach. Personally we are not in favour of such methods.

For a book of its nature it certainly contains much information of an up-to-date character.

A Text-Book of Surgery for Students and Practitioners. Edited by WILLIAM W. KEEN, M.D., LL.D., F.R.C.S. (Hon.); and J. WILLIAM WHITE, M.D., Ph.D. Fourth Edition, thoroughly Revised and Enlarged. In Two Volumes, London, Philadelphia and New York: W. B. Saunders & Co. 1903. Pp. 1363.

IF any doubt existed as to the popularity of this text-book, such should be at once dispelled by reading the opening sentence of the preface to the present edition. In it we find that "of the previous editions nearly 40,000 copies have been disposed." Such a sale seems to us unprecedented,

at any rate in the short time that has elapsed since the book first appeared in 1892.

The present edition has been very well revised and brought up to the requirements of modern surgery. Many of the sections are excellent, both as regards quantity and quality, but some are still too short to meet the requirements of the student, such as that dealing with fractures. Abdominal surgery is generally, as one would expect, fully up to date ; but it seems surprising to find under the head of the treatment of acute intussusception the statement that rectal insufflation is a simple, safe and efficient line of treatment. It may be simple, but we cannot say that, in our opinion, it is either safe or efficient. Then, under the operative treatment of this serious condition, when reduction cannot be effected, what is the object of inserting—as one of four procedures to be adopted—that of performing a short-circuiting operation ? If gangrene of the intussusception takes place, as it probably would, the gangrenous, sloughing mass left there is a source of septic infection which will, in the majority of the cases, surely kill the infant. It seems strange to find no description of that serious emergency—calculus-anuria, or, in fact, any reference made to it or its treatment.

The method described of determining the efficiency of the kidneys in connection with the conditions necessitating surgical interference, with the object of ascertaining whether an operation on one kidney, or, if necessary, its removal, could be undertaken with any prospect of success, is certainly defective, and, in our opinion, practically useless.

These points to which we have drawn attention are but small blemishes in a book of such uniform excellence. The illustrations are numerous and well chosen.

The Royal University of Ireland. The Calendar for the Year 1904. Dublin: Alex. Thom & Co. London: Longmans, Green & Co. 1904. 8vo. Pp. 585.

THIS Calendar is published in the usual form, and with the usual degree of excellence. At pages 234 to 237, inclusive, will be found the changes in the medical courses for 1905. Of these the most important refer to the Diploma in Sani-

tary Science, or, as it will be known in future, the "Diploma in Public Health." For it the subjects of examination will be:—(1) Physics, (2) Chemistry, (3) Meteorology, (4) Sanitary Engineering and Architecture, (5) Bacteriology, and (6) Hygiene, Sanitary Law, and Vital Statistics. The examination is for the future to be divided into two parts, which may be passed separately or together. Part I. comprises physics, chemistry, meteorology, sanitary engineering and architecture. Part II. comprises bacteriology, hygiene, sanitary law, and vital statistics. In each part the examination will be oral and practical as well as written. We note that under the heading "Sanitary Law" a list of the Acts of Parliament is given as a guide to intending candidates.

The Value of Ureteric Meatoscopy in Obscure Diseases of the Kidney. A Study in Clinical and Operative Surgery. By E. HURRY FENWICK, F.R.C.S.; Surgeon to, and Lecturer on Clinical Surgery at, the London Hospital. London: J. & A. Churchill. 1903. Pp. 219.

ANOTHER volume is added by Mr. Fenwick to his already long list of works devoted to urinary surgery. The present volume adds very largely to our knowledge of the value of the cystoscope as a diagnostic power in the hands of anyone experienced in its use. The correct interpretation of the appearances presented by the ureteric opening, though fully discussed in the various chapters in the present book, could be accomplished only by one who had a very large experience in the use of the cystoscope. The few cases a general surgeon sees in which he has opportunities for the use of this method of diagnosis would scarcely be sufficient to enable him to correctly interpret the cystoscopic appearances. Still, with the aid of the present work his patients should benefit largely. The various conditions described are illustrated by reports of cases from the author's own practice.

There is an appendix devoted to a short description of the method of Professor Alexander V. Koránji on the determination of the functional power of the kidney. A

further appendix gives the histories of 50 cases of proved urinary tuberculosis with cystoscopic findings.

We can strongly commend the book to the study of every surgeon.

Insanity in Every-day Practice. By E. G. YOUNGER, M.D. Brux., M.R.C.P. Lond., D.P.H., &c. Medical Monograph Series, No. 8. Edited by DAVID WALSH, M.D. London; Baillière, Tindall & Cox. 1904. 8vo. Pp. 109.

THE aim of this clearly written and well-arranged monograph is to enable the general practitioner to make himself familiar with the broad outlines of insanity. The author declares that his object in drawing up what he calls "an outline chart" of insanity has been to treat his subject throughout from a practical standpoint. He endeavours to place himself, as far as he possibly can, in the position of the medical man who, with little or no previous knowledge of insanity, has to deal with a case of mental aberration at a moment's notice. Such a man will, he thinks, gladly welcome a small book to which he may turn with a reasonable hope of finding the help he wants, and the perusal of which in leisure moments may enable him to grasp the main outlines of diagnosis and prognosis in the ordinary forms of mental disease. The book is divided into two parts. The first opens with certain definitions of insanity, sets out its causes, defines the terms "hallucination," "illusion," and "delusion," gives the early and premonitory symptoms of insanity, describes the examination of a patient with a view to certification as a person of unsound mind, and finally discusses the legal bearings of proceedings in lunacy in the three divisions of the United Kingdom.

Part II. deals with the several forms of insanity, their diagnosis, prognosis, and treatment. The recognised types of insanity are six in number—mania, melancholia, delusional insanity or paranoia, general paralysis, dementia and idiocy, imbecility and cretinism. In addition, special forms of mental derangement are considered—namely,

puerperal, epileptic, syphilitic, alcoholic, adolescent, rheumatic and gouty, plumbic and climacteric insanities. Circular insanity, moral insanity, feigned insanity, and "police-court" insanity are also described; and there is an interesting section on "borderland states."

Dr. Younger, as a rule, writes clearly and well. There are a few blemishes, like the words "prognose" (page 10), "deliria" (page 12), "officinal" for "official" (page 44): but these do not materially detract from the value of the work, which we can cordially recommend as an excellent introduction to the study of insanity.

Saunders' Year-Book of Medicine and Surgery. Under the General Editorial Charge of GEORGE M. GOULD, M.D. Surgery. W. B. SAUNDERS. 1904. Pp. 681.

THIS work is now so well known by the profession that it is only necessary for us to remind our readers that the volume for this year has come to hand, and fully equals in excellence the volumes of previous years. There is not only an epitome of everything written on surgery, special and general as well as gynæcological, during the past year worth recording but an editorial criticism is occasionally made by one of the editor's able collaborators.

Guy's Hospital Reports. Vol. LVIII. 1904. Pp. 384.

DR. HALE WHITE writes on disease of the heart owing to over-indulgence in alcoholic drinks. He found the proportion of males to females as 10 to 1. In the earlier stages the author relies for diagnosis upon the rapidity of the pulse and the severity of the dyspnœa, without any sign of mitral disease. Later on there is hypertrophy, and then dilatation; sometimes there is, in addition, alcoholic fatty degeneration shown by yellow striation.

Dr. Fortescue-Brickdale deals with the intravenous injection of drugs. The experimental evidence, considered as a whole, is distinctly against such injections favourably influencing the course of a bacterial disease, as so far no drug is known which will injure fatally the cells of living

bacteria without injuring the cells of the host. A valuable six-page Bibliography accompanies this paper.

Dr. Herbert Trench deals with Eosinophilia in Skin Disease. The result of leucocyte counts in ninety patients was to show that there were none of the skin diseases investigated in which eosinophilia was not the exception rather than the rule except pemphigus, dermatitis herpetiformis, and, possibly, xanthoma diabeticorum.

Two hundred and forty (240) pages are devoted to "Malignant Diseases of the Stomach, 1826-1900," by Sir Cooper Perry and Dr. L. E. Shaw—records of 306 cases being given. There is also a paper on the Influence of Heredity in Angeio-Neurotic Œdema, by C. A. Ensor.

Fanny Haire: Her Dream—The Unlucky Golfer. By MAURICE C. HIME, M.A., LL.D. With Illustrations by JOHN R. MONSELL. London: Simpkin, Marshall, Hamilton, Kent & Co. Dublin: Wm. M'Gee. 1904.

THESE ballads will repay perusal—first, because of the even flow of the lines; secondly, and chiefly, inasmuch as they convey sterling moral lessons.

The ballad of "Fanny Haire" is intended to show in particular that some persons, through their ill-temper, may possibly be the architects of their own ill-health—as the author says—"the more cheerful one's spirits, the better one's health."

The moral of the "Unlucky Golfer" is to point out the demoralising fallacy of constantly ascribing want of success, not to its real source, one's own fault and defects, but to ill-luck, accident, fortune—

"Or that power
Which erring men call chance."

Mr. Monsell's illustrations are both artistic and quaintly humorous. The ballads cost sixpence a-piece, and are good value for the money.

PART III.

SPECIAL REPORTS.

REPORT ON PUBLIC HEALTH.*

By SIR CHARLES A. CAMERON, C.B., M.D.; D.P.H., Camb.; M. and Hon. F.R.C.P.I.; F.R.C.S.I.; F.I.C.; Ex-President, Hon. Dip. Public Health, and Professor of Hygiene and Chemistry, R.C.S.I.; Vice-President and Ex-President of the Royal Institute of Public Health, and of the Society of Public Analysts; Medical Officer of Health for Dublin; Hon. Member of the Hygienic Societies of France, Belgium, Paris, and Bordeaux, the Academy of Medicine, Sweden, and of the State Medical Society of California, &c.; Examiner in Sanitary Science. Royal University of Ireland; Member of the Army Sanitary Committee, &c.

(Continued from page 331.)

INOCULATION OF SOIL WITH INFECTED SEWAGE.

The Supplement to the Report of the Medical Officer of the Local Government Board (England) for 1901-2 contains a continuation of the experiments of Dr. Houston on inoculation of soil with sewage. In 1900-1 Dr. A. C. Houston had carried on an investigation of the same kind—namely, to determine the ultimate fate of such sewage micro-organisms as *Bacillus coli*, *Streptococcus* and spores of *Bacillus enteritidis*, when sown broadcast on soil. It was suggested that as these bacilli are associated with the bacilli of enteric fever, but are more easily isolated and identified, their fate in the soil might throw light on what happens when the *Bacillus typhosus* is placed under similar conditions. It is admitted that sewage is sometimes the vehicle for the dissemination of enteric fever, and it is also

* The author of this Report will be glad to receive any books, pamphlets or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of the Journal.

known that sewage always contains immense numbers of *Bacillus coli* and allied forms. According to the bacteriologists, the colon bacilli are hardier organisms than the bacilli of enteric fever, and therefore it is extremely unlikely that the latter would survive under conditions fatal to the former. It seems, therefore, desirable to ascertain exactly what becomes of the colon and allied bacilli when, held in sewage, they are placed in soils of various kinds. If these bacilli perish in the soil within a certain time it seems likely that the typhoid organisms would perish also and earlier.

Dr. Houston considers that the following conclusions may be drawn from the results of his two years' experiments:—

“ 1. The addition of sewage to an ordinary garden soil *does not* seemingly lead to a *marked or indeed to other than temporary increase of the sewage microbes in general at the expense of the soil bacteria*. On the contrary, the hardier soil bacteria seem gradually to oust the more delicate sewage microbes in the struggle for existence (Series 1 and 2 of Part I., 1900-1901).

“ But the addition of sewage to a *virgin sandy soil* leads to an *enormous increase in the total number of microbes* as compared with the number present in the soil antecedent to the inoculation process. And although *the numbers* rapidly but not uniformly *diminish*, the soil *does not* within a period of *some months* revert to *its original state* (Part II., 1901-1902).

“ 2. The addition of sewage to a garden soil tends primarily to *increase the ratio of total number of bacteria to spores of aerobic bacteria*, but this alteration is apt to be soon lost (Series 1 (to some extent), Series 2 (to a greater extent), Part I., 1900-1901).

“ 3. The addition of sewage to a soil leads to an increase in the number of *indol-producing bacteria*. This increase, however, tends to soon disappear or only to be maintained in a diminished degree. Periods of seeming recrudescence of vitality of these indol-producing bacteria would seem to be indicated (Series 3, Part I., and Series A, Part II., 1900-1901).

“ 4. The addition of sewage to a soil leads to an increase in the number of *gas-forming bacteria*. But sometimes rapidly, sometimes more slowly, this increase wholly or in great measure disappears. Occasionally a seeming recrudescence of vitality of

the gas-forming bacteria takes place (Series 1, 2, 3, Part I., and Series A, Part II., 1900-1901, and Part II., 1901-1902).

"5. The addition of sewage to a soil leads to an increase in the number of spores of *B. enteritidis sporogenes*. The experiments sometimes seemed to indicate a partial disappearance of the spores of this anaerobe from the soil during the period of observation, but taking the results as a whole it may be said that any diminution in the number of spores of *B. enteritidis sporogenes* that may have taken place compared with the marked reduction in the abundance of other but non-sporing microbes of excremental sort—e.g., *B. coli* and *Streptococci*—was small in amount (Series 1, 2, 3, Part I., and Series A, Part II., 1900-1901, and Part I. and II., 1901-1902).

"6. The addition of sewage to a soil greatly alters its bacterial composition in respect of *B. coli* and allied forms. But this alteration tends to become less apparent as time gradually elapses. Sometimes the relative disappearance of *B. coli* is rapid, sometimes much slower, and periods of a seeming return to vitality are not uncommon. Moreover, the total disappearance of microbes seemingly akin to *B. coli* was by no means always established, when the period of observing was extended over weeks and even months. But there can be little doubt that the experiments as a whole tend to confirm my previous inferences—namely, that if *B. coli* does not perish in the surface layers of soil, it certainly becomes greatly reduced in numbers; so that its presence in a soil in any number may be taken as affording reasonable grounds for suspecting pollution of comparatively recent sort. The relative death of the completely typical races of *B. coli* was much more apparent than that of the less typical forms. But this may in reality mean that the original completely typical strains of *B. coli* lose some of their positive attributes during their prolonged sojourn in the soil (Series 1, 2, 3, Part I., and Series A, Part II., 1900-1901, and Parts I. and II., 1901-1902).

"7. The addition of sewage to a soil may be detected by the presence of *Streptococci* even in a minimal amount of the soil thus polluted. But the disappearance (relatively if not actually) of the microbes unquestionably to be regarded as *Streptococci* seems to be extremely rapid. Nevertheless, the persistence of certain kinds of streptococci or of pseudo-streptococci for long periods in the soil was observed on more than one occasion. The differentiation of these streptococci seemingly of peculiar type from other strepto-

cocci of greater significance (because their presence points, it is believed, to contamination with matters of extremely recent animal outcome) is a matter of great difficulty and involves the personal equation. I am unable at present to express a definite opinion regarding the points (morphological or biological) on which reliance should be placed in effecting a discrimination of the above kind. But the experiments as a whole tended to confirm the views I have previously expressed—namely, that the presence of streptococci (particularly those *indubitably* to be regarded as true streptococci) in any number in a soil points to extremely *recent* contamination (Series 1, 2, 3, Part I., and Series A, Part II., 1900-1901; and Parts I. and II., 1901-1902).

“In conclusion, whatever interpretation be ultimately placed on these results, the experiments as a whole, in the light of our present imperfect knowledge, go far to dispel the supposition so widely and firmly held that the surface layers of soil are a fertile breeding ground for microbes of pathogenic sort. On the contrary the results are reassuring, inasmuch as they seem clearly to show that some kinds of soil ‘heavily’ polluted with excremental matters tend soon to ‘purify itself’ so far as the non-sporing microbes of intestinal sorts (*e.g.*, *B. coli* and *Streptococci*) are concerned. Nevertheless, extreme caution must be exercised in distinguishing between the surface and deeper layers of soil and between the *relative* and *actual* death of bacteria. From the point of view of the epidemiologist and in relation to enteric fever and cholera the marked decline in the number (relative death) of, at all events, typical *B. coli* subsequent to a cessation of the inoculation of the soil with sewage is of a considerable importance. For if *B. coli* is rightly to be regarded as a more hardy germ than either *B. typhosus* or Koch’s vibrio, it may inferentially be concluded that these pathogenic microbes would not be likely to maintain their vitality in the *surface* layers of soil for more than a brief period.”

Notwithstanding the results of Dr. Houston’s researches and those of Dr. Martin, I am still convinced that the soil is in some way connected with the diffusion of enteric fever. No doubt polluted water is a frequent cause of enteric fever, but many towns in which the water supplies are beyond suspicion have more enteric fever than other towns with less pure water. There is more enteric fever in

Glasgow, Dublin, and Liverpool, where the water is of undoubted purity, than there is in London, which is supplied with filtered water from the Thames. I have shown that in Dublin enteric fever is 50 per cent. greater in the districts situated on the loose gravels than on the stiff boulder clay. Why should this be the case unless there was some influence exerted by the soil in the diffusion of the disease? My views as to the soil being in many cases the immediate source of the *Bacillus typhosus* are sustained by the researches of Major R. H. Firth, Professor of Hygiene in the Medical Staff College, London, and Major Horrocks, R.A.M.C. They found that these bacilli survive in moist soils, sometimes for 74 days, and that they could be carried out of the soil into the atmosphere by air currents. This is in accordance with my views expressed a dozen years ago. There is no way in which the prevalence of enteric fever can be explained if we do not admit that the soil plays some part in its diffusion. Working on the same lines as Firth and Horrocks, Professor Pfuhl, of Berlin, obtained similar results, but he found a still greater viability of the bacilli in the soil, in which they lived for 88 days (*Zeitschrift für Hygiene*, Bd. XI., Hft. 3).

The medical officers of the Army at various Indian stations have indicated soil pollution as a source of enteric fever. Of course the danger may arise from pollution of water gathered from an infected soil, but it may also be due to emanations from the soil itself.

Waslin, in a remarkable paper on the nature of enteric fever (*American Medicine*, February 8, 1902), states that dust is a more frequent vehicle of the poison of the disease than water. He believes that the majority of the cases are of pneumonic origin, and that the bacilli first invade the respiratory tract, and later attack the intestines. His actual cases confirm, he says, this view.

The "Abstract of the Report of the Typhoid Fever Epidemics on the Volunteer Camps of the United States Army in 1898," contains a mass of evidence proving the spread of enteric fever by means of dust and flies. In the majority of cases water was not the principal factor in spreading the disease.

DESTRUCTION OF RATS.

It has been suggested that rats are a common vehicle for the diffusion of the poison of plague, and when plague was in Dublin and other ports, great efforts were made to destroy rats in vessels and in the sewers near the river, harbour, &c. Dr. J. Ashburton Thompson, President of the Board of Health, New South Wales, seems somewhat incredulous as to the part played by rats in conjunction with this disease. He says (*Australian Medical Gazette*, Sydney, October, 1903):—

“ All that has been ascertained on this head is that man and the rat are susceptible of an identical infection. That plague is primarily a disease of the rat, that it is commonly communicated to man from the rat, or that man and the rat in circumstances of usual propinquity are reciprocally infective, are but conjectures ; for it has been also said that sometimes an epidemic has preceded the epizootic, and even, in different places, that each has run its course unattended by the other. Nor are current views free from inconsistency ; for, while human intercourse is insisted upon as the most important means by which the infection is introduced into distant places, it is also taught at the same time and by the same writers that the disease is rarely communicated from the sick to the well when the former remain at home, or enter hospitals in the neighbourhood of the place at which they have been attacked. This contradictory teaching was noticed* in India five or six years ago, and is still held there. Briefly, the epidemiology of plague has been left obscure by the observations thus far recorded in other countries, and, indeed, in confusion.

“ It has gradually become an article of popular belief in this State that plague is diffused solely by the rat. This is owing in part, no doubt, to persistent inculcation of that view by the Board of Health from December, 1899, onwards ; but an acquaintance with the difficulties which beset the simple theory which is implied in the one word ‘ rat ’ has probably contributed largely to establish it. These difficulties consist primarily in absence of direct evidence that plague-rats are causatively associated with plague in man. If the fact were so, coincidences between plague-rats and cases of plague should be commonly, and it seems *a priori* easily, observed—coincidences in time, in

* By Hankin, *Annales de l'Institut Pasteur*. XII. Page 74. 1898.

district prevalences, and in individual premises; lastly, rat-plague should have been noted invariably to precede plague in man. But, in fact, elsewhere very little more than a general liability of man and the rat to suffer at or about the same time has hitherto been recorded. Further, if such coincidences had been noted often enough to warrant inference of causative connection between the two, another and serious difficulty would still present itself; namely, how communication of the infection from rat to man could be brought about so commonly as to account for epidemics. For in the rat plague is a septicæmic disease, and some special means of conveyance are certainly necessary."

Dr. John Haldane, F.R.S., gives a report on the application of carbonic oxide to the destruction of rats, in Supplement to the Thirty-first Report of the Local Government Board (England), 1901-2, published in 1903.

A cargo steamer has usually several water-tight compartments. As a rule, there are two or more ventilators for each section. They pass through the upper deck, and one is often passed through to the lowest of the decks below, and in such cases there are free openings in the shafts just below each deck. On the bottom of the hold there is on each side a sluice valve, with an opening usually 3 to 4 inches in diameter, through which any water in the hold may be allowed to flow through the bulkhead towards the engine-room pumps. The carbonic oxide gas is passed into the hold through a pipe introduced into one of the ventilators open just below the upper deck, the other ventilators having previously been closed. The air in the hold passes out partly into the next compartment through the sluice valves, partly into the open air through the pipes of the hand pumps and sounding pipe. Any water in the hold must be pumped out previous to the introduction of the gas. As carbonic oxide is only a little lighter than atmosphere air it is made much lighter by the addition of 10 per cent. of hydrogen gas. The displacement of the air by the poisonous mixture is slow—from 10,000 to 20,000 cubic feet per hour. A large vessel contains from 50,000 to 100,000 cubic feet of space per compartment. Assuming that half the space is occupied by cargo, it would be necessary to displace from 25,000 to 50,000 cubic feet of air. If the displacement is com-

plete, a mouse placed in the gas becomes unconscious in less than one minute. The apparatus for generating the carbonic oxide is placed on a barge. It would necessarily be provided by the Port Sanitary Authority and the use of it charged to the ship owner.

STATE OF PUBLIC HEALTH IN ONTARIO.

I have, as usual, been favoured with a copy of the "Report Relating to the Registration of Births, Marriages, and Deaths" in the Province of Ontario, Canada, for 1902. A few of the statistics in this voluminous and well-got-up report will prove interesting.

In 1901 the population of the Province was 2,184,144, and it was estimated that it had increased 1 per cent. in 1902.

The birth-rate was 21.7 per 1,000. This is a low rate, but it would seem that registration is neglected in some districts. The highest rate, 39.9, was in Nipissing; the lowest, 16.3, in Prince Edward. The towns had a higher rate than the rural districts. The rate in England and Wales was 28.5, with, perhaps, better registration. The lowest rates were in the districts containing a large French population.

The marriages in Ontario were in the ratio of 8.2 per 1,000, being somewhat higher in the towns than in the rural districts. 16.4 persons married per 1,000 of the population—a satisfactory rate. In the previous year the rate was as follows in other countries:—England, 15.1; Scotland, 14.0; Ireland, 10.0; Denmark, 14.4; Norway, 13.4; Sweden, 12.1; Austria, 16.4; Hungary, 17.4; Switzerland, 15.2; Prussia, 16.6; Netherlands, 15.4; Belgium, 16.6; France, 15.6; Italy, 14.5; Roumania, 14.4; Quebec, 12.2. It is evident that Ireland must have had a higher rate and that many marriages in that country are not registered.

33.4 per cent. of the persons married were Methodists, 20.3 per cent. Presbyterians, 16.1 per cent. Church of England, 15.3 per cent. Roman Catholics, 6.3 per cent. Baptists, and the others belonged to various other denominations.

The death-rate was only 12.6 per 1,000 (in the present year it was 13.6). This rate is far below that of any European country, but it is stated that there is reason to believe

that the estimate given approximates absolute correctness. In 1901 the lowest death-rate in European countries was that in Norway—namely, 14.9; the highest, 27.6, was in Spain. There were low death-rates in the United Kingdom—16.9 in England and Wales; 16.9 in Scotland; and 17.8 in Ireland. In Quebec the rate was 19.9, or more than 50 per cent. greater than in Ontario.

In Canada, as in other countries, the towns have a higher death-rate than the rural districts. In the 14 cities in Ontario the rate was 15.8, and in the 31 "towns," 15.9.

The deaths ascribed to tuberculosis show a marked decrease as compared with former years. The rate was 122 per 100,000. Nearly 10 per cent. of the total deaths were due to tuberculosis. This, the report states, "compares favourably with England and Wales, in which the rate was 181.1 per 1,000, and 118.7 per 1,000 deaths." In Dublin the rate is nearly 300 per 100,000 persons living. In Ontario tuberculosis was most fatal in the towns. It was more prevalent along the St. Lawrence River, and least so in the western inland towns. In Toronto—population 210,120—the rate was 1.57; in Ottawa, 1.96; and in Kingston, 2.05. The highest rate was 2.26.

As regards enteric fever, the deaths due to it were in the ratio of 0.22 per 1,000 in the cities and towns, and 0.15 in the rural districts. In Dublin the rate is about 0.4 per 1,000.

The death-rate from diphtheria is high—namely, 0.48 per 1,000 in the cities, 0.2 in the towns, and 0.27 in the counties. In Dublin it is about 0.13 per 1,000.

INFECTED SHELL-FISH.

The Fourth Report of the Commissioners appointed in 1898 to inquire into the methods of treating and disposing of sewage has just been issued. It comprises a Blue Book of 316 pages, and contains much diagrammatic and tabular matter. It is really a report by Dr. A. C. Houston on the bacterial examination of estuarial waters and shell-fish. In his elaborate work he was assisted by his colleague Dr. Gordon and Miss Power and Miss Hartley.

The bacteriology of the Thames and its estuary was

investigated to a considerable, but not exhaustive, extent. It is difficult to summarise the results—the number of examinations was so large, and the water, sludge, &c., in so many places were examined. At Barrow and Chapman Deep the number of *Bacillus coli*, or the gas-forming, colon-like microbes was small—namely, from 1 in 1 cc. to 1 in 10 cc. At Mucking the number was from 1 to 100 per 1 cc.—more often 10 than 1, and rarely 100. At Crossness, Parfleet, and Barking the number was about 100 to 1,000 per cc. At Grays, 10 to 1,000, more usually 100. At Hampton and Sunbury 10 to 100, 10 more frequently.

Sea water from the west coast of Scotland, known not to be polluted, was examined. With the *B. coli* test 34 out of 35 samples yielded an absolutely negative result. The remaining sample did give a result, but it had been collected close to the shore. None of the samples contained *B. enteritidis sporogenes*.

It is assumed that sewage pollution is always to be regarded as dangerous. If it is known that sewage, in however small a quantity, entered a water we might assume that it was dangerous to drink the latter, even if a chemical analysis showed very little albuminoid matter. I have often met with waters free from sewage which had large amounts of albuminoid matter, owing to the presence of much peaty matter. Dr. Houston states that *B. coli* and *B. enteritidis* are commonly present in 1–100,000 cc. and 1–1,000 cc., respectively, of sewage, whilst they are absent from 100 cc. and 10 cc., respectively, of multiple samples of unpolluted sea-water. With these data he divides water into 9 classes by means of the *B. coli* test. A water of the fourth class (+ 1–1 cc.) might be condemned or objected to, whilst a water of the first class (no *B. coli* in 100 cc.) might be unconditionally regarded as pure. There are three methods of determining the quality of a water:—1, By the topographical, i.e., examination of the sources of the water, and local conditions generally; 2, by the chemical analysis of it; 3, by the biological. In all cases, except where there is obvious pollution, degrees of pollution need to be measured by the bacteriologist, who should interpret his results in the light of local observations and epidemiological

considerations. The chemical method, says Dr. Haldane, "is a definite and extremely accurate method, and although indirect in character may, within certain limits and certain directions, yield most valuable results."

An immense number of experiments and examinations in relation to oysters are recorded in this voluminous work. It is shown that *B. coli* and colon-like bacilli may not only be present in the stomach juice of oysters, but be there abundantly. In the juice of oysters from Penrhyn river colon-like microbes were found to the extent of 10,000 per cc. Many examinations of oysters bought in the market, in fish shops and restaurants demonstrated their presence.

In Anglo-Dutch oysters one experiment showed typical *B. coli* in the proportion of 10 per oyster; in a second experiment the number of microbes was 100, of which at least 10 per cent. were *B. enteritidis*; in a third experiment each oyster contained *B. coli* in 100 part of its entire bulk. As many as 1,000 *B. coli* were found in one of a batch of Portuguese oysters purchased at 10d. per dozen. This oyster would be rejected on what Dr. Houston terms the lenient standard of less than 1,000 *B. coli* per oyster. As to *B. enteritidis* a lenient standard of less than 100 per oyster, and a stringent standard of less than 10 per oyster is suggested.

It would be desirable to have the immense number of facts described in this Blue Book summarised, for there are few who can spare the time to study them thoroughly in the voluminous form in which they are presented to the reader.

The Local Government Board for Ireland have followed the example shown by the English Board in reference to the question of shell-fish pollution. They have just published a Blue Book (Report on the Shell-fish Layings on the Irish Coast, as respect their Liability to Sewage Contamination. E. Ponsonby, 113 Grafton-street, Dublin, 1904) dealing with this subject, embracing 148 pages and numerous plates. It is a valuable contribution to the literature of shell-fish pollution, and is especially useful to all who take an interest in the cultivation of shell-fish and the consumers thereof. The Blue Book is divided into two parts—one gives the topographical aspect of the

subject, the other treats it from a bacterioscopic point of view.

- Dr. Browne, a Medical Inspector of the Board, inspected the shell-fish "layings," or "beds," on the Irish coast, and made a rough classification of them into three groups:—
- (1) Those which are apparently free from pollution;
 - (2) those the purity of which must be regarded as doubtful;
 - (3) those which appear to be undoubtedly contaminated.

It is stated that, as the work had to be done in a short time, it must not be regarded as anything more than a superficial examination of the foreshores as they seem to be affected by sewage contamination.

Professor McWeeney examined bacterioscopically the oysters submitted to him from the various layings inspected by Dr. Browne, but no information was given to him in reference to the results of Dr. Browne's inspection of the layings and their environment. On the whole, Professor McWeeney's results agreed with Dr. Browne's observations, but they did not in all cases.

In Dr. Browne's opinion the following layings are apparently free from pollution:—Roaring Water Bay, Co. Cork; Barrow Harbour, River Shannon, Galway Bay, with the exception of the public fishery close to the mouth of the River Corrib; Kilkieran Bay, Birterbuy, Cashel, Ard-bear, Mannin, Ballinakill, and Little Killary Bay, Co. Galway; Killary Bay, except the fisheries close to the village of Leenane, Counties Galway and Mayo; Cleg Bay, Newport Bay, Achill Island and Sound, Blacksod Bay, except the public fisheries and layings close to Belmullet town; Ballysodare Bay, Drumcliffe Bay, Co. Sligo; Lough Swilly, Co. Donegal; St. George's Channel, Counties Wicklow and Wexford.

The following are the places in which it is stated layings are of doubtful purity:—Foaty Channel, Carrigaline River, Ballinacurra River, North Channel, Rastellan in Cork Harbour, estuary of Bandon River, Kinsale Harbour, Glen River, Glendore Harbour, in Co. Cork; Kenmare River, Tralee Bay public oyster fishery, Co. Kerry; Clifden, Killary Bay public fisheries, close to Leenane; Oyster Island, Sligo Bay; Lough Foyle; Malahide Inlet.

Layings more or less subject to pollution by sewage:— Estuary of the River Lee, Cork Harbour; public oyster fishery close to the mouth of the River Corrib, Galway Bay, public fishery close to Belmullet Town and layings in same locality; Nos. 99 and 100 licensed oyster beds Sligo Bay, Belfast Lough, public oyster fisheries, Carlingford Lough and estuary of Newry River, public oyster fisheries and private layings; and layings in Dublin Bay.

In 1881 I read a paper at the meeting of the British Medical Association at Cambridge, entitled "Typhoid from Oysters." I found that the oysters taken from an extensive layings on the Clontarf littoral contained sewage in decided quantities. It was evident then that enteric fever or other diseases might be propagated through the medium of polluted oysters. This was the first paper on the subject published in these countries or elsewhere. Subsequently, at my request, the Dublin Port and Docks Board refused to renew the lease of these layings, and they no longer exist. In 1881 I examined other layings at Clontarf, but they were decidedly more elevated than the other beds, and sewage had no direct access to them. Since 1881 the population of Clontarf has greatly increased, and there has been a great development of the water-closets in the district. Recent examinations of these layings by Dr. Flinn and Professor McWeeney have proved that they are now polluted.

I have published particulars of a case in which at a luncheon party 9 out of 10 persons who had eaten oysters were attacked with nausea, vomiting, abdominal pain, and prostration. I ascertained that the oysters were procured from Carlingford Lough (Mann's *Forensic Medicine and Toxicology*, page 669).

THE ROYAL UNIVERSITY OF IRELAND.

HIS MAJESTY THE KING has been graciously pleased to present to the Royal University of Ireland a signed portrait of himself through the Chancellor of the University, the Right Hon. the Earl of Meath. Their Majesties The King and Queen are Honorary Graduates of the Royal University.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR THORNLEY STOKER, M.D., F.R.C.S.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF MEDICINE.

President—SIR A. V. MACAN, M.B., Pres. R.C.P.I.
Sectional Secretary—R. TRAVERS SMITH, M.D., F.R.C.P.I.

Friday, April 8, 1904.

THE PRESIDENT in the Chair.

Further Notes on Glycosuria and Insanity.

DR. W. R. DAWSON gave an account of a second series of cases, twelve in number, of insanity in which glycosuria had been observed. In seven of these sugar was found on one occasion only; in two more it was present in the urine for about a month on one occasion, but was cured by dieting; and in two others glycosuria occurred transitorily on more than one occasion. The last case was one of minor epilepsy with short periods of alternating insanity. The patient, after a number of years, developed a glycosuria which has persisted in varying intensity for nearly two years, but does not seem to be affecting the bodily health. It has yielded latterly to Poehl's cerebrin, which also seemed to benefit the epilepsy, and on the whole the number of seizures have been very considerably reduced since the sugar appeared. Of the twelve cases, eight were melancholic or subject to depressing delusions; two were doubtfully happy, and two were demented, and, therefore, supported previous observations.

In two cases some mental depression seemed to be associated with the glycosuria, but on the whole this symptom, if transitory, had no particular significance.

DR. T. P. KIRKPATRICK inquired the pathogenesis of true diabetic insanity. Was it due to toxæmia?

DR. DAWSON, in reply, said that none of his cases were cases of true diabetic insanity. He had seen only one such case, which he had described, and the disease was very rare. In a paper published about two years ago he had urged that the mental symptoms were due to absorption of the hæmic oxygen by the sugar in the blood. The last patient did not show markedly the other symptoms of diabetes.

Gastro-tetany.

DR. T. G. MOORHEAD reported a case of this affection which terminated fatally a week after the onset of the symptoms. *Post mortem* the stomach was found dilated, and there was a commencing carcinomatous growth at the pylorus. The kidneys were intensely congested, and also showed slight chronic changes. Nothing abnormal was found in the motor cells of the spinal cord. Several experiments were carried out with the vomit, but all proved negative as far as effects upon animals were concerned. This, he pointed out, was in accordance with the majority of other observations, and seemed to point to the fact that either the disease was not of a toxic nature, or else that the toxin was not contained within the vomit.

DR. CRAIG mentioned a case of gastro-tetany which he had seen in the Meath Hospital. The patient suffered from dilated stomach, and the characteristic symptoms of tetany appeared soon after lavage had been practised. A fatal result ensued early. Dr. Craig briefly mentioned a case of true tetany which he had also observed.

DR. H. C. DRURY suggested that the condition of the kidneys in this case might have had its share in the causation of the symptoms. He was interested in the fact that a large proportion of the recorded cases of gastro-tetany had renal trouble of some description. He advocated the operation of gastro-enterostomy as likely to obviate the condition in cases of pyloric obstruction and gastrectasis.

DR. J. B. COLEMAN had seen a man in the Whitworth Hospital who had been brought in with tetany, when a greatly dilated

stomach was discovered. The patient refused to remain in hospital.

DR. G. PEACOCKE questioned the importance of leucocytosis as a sign of an early fatal issue, or as necessarily a sign of severe toxæmia.

DR. MOORHEAD replied.

The meeting then adjourned.

SECTION OF OBSTETRICS.

President—ALFRED J. SMITH, M.B., F.R.C.S.I.

Sectional Secretary—T. HENRY WILSON, F.R.C.P.I.

Friday, April 15, 1904.

THE PRESIDENT in the Chair.

Exhibition of Specimens.

DR. GLENN showed specimens of dermoid tumour of the ovary, sarcoma of the ovary, carcinoma of the ovary, and epithelioma of clitoris and labia minora.

DR. E. H. TWEEDY showed a specimen of sarcoma of the uterus.

DR. GORDON FITZGERALD showed a very interesting tubo-ovarian cyst.

Tuberculosis of the Vaginal Portion of the Cervix.

THE PRESIDENT read a paper on this subject, and gave notes of a case. He said the patient, aged twenty-five, was admitted to St. Vincent's Hospital in January last. The history of the case was that of an incomplete abortion, with foul-smelling discharge. The temperature on admission was 100.4° F., which was put down to septic absorption. On inspection a fungous ulcerating mass projected more or less uniformly around the os. It broke down easily on pressure with the finger, causing a well-marked hæmorrhage. Cancer was diagnosticated provisionally, but the examination under the microscope of a piece cut out of the cervix showed it to be tubercular. A section demonstrating the tuberculous system was shown under the microscope. Both lungs were affected with tuberculosis, and large quantities of tubercle bacilli were found in the sputum. Hence palliative treatment. The chief points of interest were (1) the rarity of the affection; (2) consideration as to the source of the affection; (3) some points in differential diagnosis.

DR. WILLIAM DARGAN said the tuberculous process as shown under the microscope had extended pretty deeply into the muscular tissue, separating, where it had not destroyed, the muscular fibres, and sparing here and there the blood-vessels. At the advancing part typical tuberculous systems with their giant cells and epithelioid cells can be made out between the muscular bundles, and suggest that they have been formed in the lymph spaces, as many of them are completely surrounded by normal muscular bundles. Tubercle bacilli could not be demonstrated in the section.

DRS. GLENN, TWEEDY, and NEVILLE also discussed the paper.

Some Recent Methods of Opening and Closing the Abdomen.

This was the title of a paper by DR. E. H. TWEEDY.

THE PRESIDENT, DRS. GLENN and FITZGIBBON spoke, and DR. TWEEDY replied.

The meeting then adjourned.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE following gentlemen, having passed the requisite Examinations of the Conjoint Board, were admitted Diplomates in Public Health:—Arthur Morton Barford, M.R.C.S. Eng., L.R.C.P. Lond., London, W.; Arthur Murray Wood, M.B., Ch.B., Leith; John Christopher Thomson, M.D., Edinburgh; Margaret Merry Smith, M.B., Ch.B., Edinburgh; Chiranjiva Bharadwaja, L.R.C.P. & S.E., Edinburgh; Thomas Frederick Hillyer Blake, L.R.C.P. & S.E., Bournemouth; William Inglis Dunn, M.B., Ch.B., Edinburgh; Andrew Grant, M.B., Ch.B., Fortrose; James Leslie Marjoribanks, M.B., C.M., Edinburgh; James Andrew Hislop, L.R.C.P. & S.E., Glasgow; John Hally Meikle, M.B., C.M., Edinburgh; David Melville, M.D., Cape Colony; and William Alexander Reid, L.R.C.P. & S.E., Edinburgh. At the same Sederunt the following gentlemen passed the First Examination in Public Health:—Herbert de Carle Woodcock, L.R.C.P. & S.E., Leeds; Alfred Robert Maclurkin, M.B., Ch.B., Natal; Richard Staward, F.R.C.S.E., Glasgow; Alexander Fraser Jack, L.R.C.P. & S.E., Glasgow; and James Allison, M.B., C.M., Cambuslang. David Dryburgh Gold, M.B., C.M., Markinch, passed the Second Examination in Public Health.

CORK MEDICAL AND SURGICAL SOCIETY.

President—J. COTTER, M.D., F.R.C.S.I.

Secretary—D. J. O'CONNOR, M.A., M.D., R.U.I.

Wednesday, April 27, 1904.

THE PRESIDENT in the Chair.

Treatment of Wry Neck.

THE PRESIDENT read notes of a case of wry neck in a child, aged six, treated by the open method of operation with a very satisfactory result, and showed the patient.

Pseudo-hypertrophic Muscular Paralysis.

DR. P. T. O'SULLIVAN showed a boy, aged eight, suffering from pseudo-hypertrophic muscular paralysis.

Diagnosis and Treatment of Renal Calculus.

DR. T. GELSTON ATKINS read a short paper on the value of catheterisation of the ureters and skiagraphy of the kidneys in the diagnosis of renal calculus, and read notes of a successful case of nephro-lithotomy to illustrate his remarks.

Gastro-jejunostomy.

DR. ATKINS also read notes of a series of eight successful cases of gastro-jejunostomy, undertaken for chronic gastric ulcer or gastric dilatations, which had not responded to medicinal treatment. The results had been most satisfactory in every instance.

Excision of the Elbow.

He also showed a boy, aged eleven, on whom he had performed excision of the elbow for extensive tubercular disease. Several surgeons had advised amputation in the case, and he had given the same advice himself, but the boy's parents would not consent. The result of the operation performed had come on more or less as a surprise, as the boy had practically perfect movement in the joint.

The Use of Stimulants in Treatment.

DR. JOHN BOOTH read a paper on stimulation and stimulants, in which he condemned the habit of giving alcohol in various diseases without sufficiently clear indications for its use.

A discussion on the paper followed.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by SIR JOHN MOORE, B.A., M.D., Univ. Dubl. ;

F.R.C.P.I. ; F.R. Met. Soc.

Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS.

For four weeks ending Saturday, April 23, 1904.

IRELAND.

TWENTY-TWO TOWN DISTRICTS.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending April 23, 1904, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 21.7 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, April 23, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for 4 weeks
	April 2	April 9	April 16	April 23			April 2	April 9	April 16	April 23	
22 Town Districts	25.9	27.0	24.4	21.7	24.8	Lisburn -	18.2	27.3	36.4	40.9	30.7
Armagh -	41.2	34.4	13.7	20.6	27.5	Londonderry	12.6	16.4	17.6	12.6	14.8
Ballymena	28.7	33.5	14.4	4.8	20.4	Lurgan -	22.1	31.0	31.0	8.9	23.3
Belfast -	22.7	26.2	26.9	20.8	24.2	Newry -	12.6	21.0	12.6	25.2	17.9
Clonmel -	20.5	15.4	30.8	-	16.7	Newtownards	22.9	28.6	11.4	22.9	21.5
Cork -	39.7	32.2	24.7	24.7	30.3	Portadown -	10.3	25.8	10.3	20.7	16.8
Drogheda -	36.8	8.2	16.3	20.4	20.4	Queenstown	13.2	19.8	19.8	33.0	21.5
Dublin - (Reg. Area)	28.5	29.7	24.4	23.3	26.5	Sligo -	4.8	28.8	9.6	-	10.8
Dundalk -	8.0	12.0	19.9	16.0	14.0	Tralee -	31.7	5.3	21.1	-	14.5
Galway -	42.7	42.7	73.8	50.5	52.4	Waterford -	25.3	25.3	31.2	25.3	26.8
Kilkenny -	24.6	24.6	4.9	14.7	17.2	Wexford -	14.0	32.7	9.3	28.0	21.0
Limerick -	35.5	21.9	13.7	26.0	24.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, April 23, 1904, were equal to an annual rate of 1.0 per 1,000, the rates varying from 0.0 in seventeen of the districts to 9.1 in Lisburn—the 9 deaths from all causes registered in that district including 2 from whooping-cough. Among the 143 deaths from all causes registered in Belfast are one from measles, one from scarlet fever, 2 from whooping-cough, 2 from diphtheria, and one from enteric fever. The 19 deaths from all causes in Limerick include 2 from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, April 23, 1904, amounted to 204—107 boys and 97 girls; and the deaths to 178—80 males and 98 females.

DEATHS.

The deaths registered represent an annual rate of mortality of 24.5 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the area, the rate was 23.3 per 1,000. During the sixteen weeks ending with Saturday, April 23, the death-rate averaged 28.9, and was 1.5 below the mean rate for the corresponding portions of the ten years 1894–1903.

There were 3 deaths from measles as against 5, 4, 4 and 4 in the four weeks preceding. The deaths registered from whooping-cough numbered 5, as compared with 5, 11, 8, and 11, respectively, in the four weeks preceding. One death from diphtheria was registered. *Diarrhœa* also caused one death. There was not one death registered from any of the following diseases—small-pox, scarlet fever, typhus, influenza, or enteric fever.

One death from croupous pneumonia, 7 deaths from broncho-pneumonia, and 12 deaths from *pneumonia* were registered.

Of 37 deaths from tuberculosis 8 were assigned to tubercular

phthisis, 18 to *phthisis*, 3 to tubercular meningitis, and 8 to other forms of the disease.

Three deaths were due to carcinoma, and 4 to *cancer (malignant disease)*.

Of 14 deaths from diseases of the brain and nervous system, four (all of children under 5 years of age) were attributed to *convulsions*.

Diseases of the heart and blood-vessels accounted for 24 deaths.

The deaths from bronchitis were 24 in number.

Four deaths from accidental violence were registered.

In 7 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 4 children under five years of age (including 3 infants under one year old) and the death of one person aged 88 years.

Fifty-one of the persons whose deaths were registered during the week ended Saturday, April 23, were under 5 years of age (29 being infants under one year, of whom 13 were under one month old), and 48 were aged 60 years and upwards, including 17 persons aged 70 and upwards, of whom 4 were octogenarians, and one (a woman) was stated to have been aged 94 years.

The Registrar-General points out that the names of causes of death printed above in *italics* should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Byrne Power, Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended April 23, 1904, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or German Measles.	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	April 2	-	59	-	6	-	-	3	-	2	13	16	-	-	-	99
	April 9	-	5	-	3	-	-	2	-	1	4	10	-	-	-	25
	April 16	-	-	-	4	-	-	3	-	2	6	8	-	-	-	23
	April 23	-	4	-	3	-	-	8	-	2	7	19	-	-	-	43
Rathmines and Rathgar Urban District	April 2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2
	April 9	-	-	-	1	-	-	1	-	-	-	-	-	-	-	2
	April 16	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
	April 23	-	-	-	2	-	-	1	-	-	-	1	-	-	-	3
Pembroke Urban District	April 2	-	-	-	-	-	-	1	-	1	1	-	-	1	23	27
	April 9	-	1	-	1	-	-	2	-	-	2	-	-	1	8	15
	April 16	-	-	-	1	-	-	-	-	-	1	-	-	-	28	30
	April 23	-	1	-	-	-	-	-	-	-	1	-	-	-	32	34
Blackrock Urban District	April 2	-	-	-	-	-	-	1	-	-	-	-	-	3	-	4
	April 9	-	-	-	-	-	-	1	-	-	-	-	-	1	-	2
	April 16	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
	April 23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kingstown Urban District	April 2	-	-	-	-	-	-	3	-	-	-	-	-	1	-	4
	April 9	-	-	-	-	-	-	3	-	-	-	-	-	-	-	3
	April 16	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
	April 23	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
City of Belfast	April 2	1	-	-	12	-	-	7	-	4	6	10	-	-	-	40
	April 9	-	-	-	4	-	-	3	-	3	1	8	-	-	-	19
	April 16	3	-	-	13	-	-	-	1	5	4	17	-	-	-	43
	April 23	-	-	-	11	1	-	12	-	7	5	8	1	-	-	46

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, April 23, 1904, 3 cases of measles were admitted to hospital, 12 were discharged, there were 3 deaths, and 15 patients remained under treatment at its close.

Seven cases of scarlet fever were admitted to hospital, 8 cases were discharged, there was one death and 56 cases remained under treatment at the close of the week. This number is exclusive of 15 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Eight cases of diphtheria were admitted to hospital, 9 were discharged, there was one death, and 21 cases remained under treatment at the close of the week.

Three cases of enteric fever were admitted to hospital, 6 cases were discharged, and 23 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 7 cases of pneumonia were admitted to hospital, 15 patients were discharged, there was one death, and 22 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, April 23, 1904, in 76 large English towns, including London (in which the rate was 16.0), was equal to an average annual death-rate of 16.0 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 21.0 per 1,000, the rate for Glasgow being 22.2 and that for Edinburgh being 17.8.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of April, 1904.

Mean Height of Barometer,	-	-	-	29.884 inches.
Maximal Height of Barometer (21st, at 9 a.m.),				30.313 „
Minimal Height of Barometer (13th, at 9 a.m.)				29.103 „
Mean Dry-bulb Temperature	-	-	-	47.8°
Mean Wet-bulb Temperature,	-	-	-	44.3°
Mean Dew-point Temperature,	-	-	-	40.4°
Mean Elastic Force (Tension) of Aqueous Vapour,				.254 inch.
Mean Humidity,	-	-	-	76.3 per cent.
Highest Temperature in Shade (on 27th),	-			62.0°.
Lowest Temperature in Shade (on 21st),	-			35.7°.
Lowest Temperature on Grass (Radiation) (21st),				32.1°.
Mean Amount of Cloud,	-	-	-	60.0 per cent.
Rainfall (on 19 days),	-	-	-	1.118 inches.
Greatest Daily Rainfall (on 2nd),	-	-	-	.190 inch.
General Direction of Wind,	-	-	-	W.

Remarks.

April, 1904, was a favourable though changeable month. Both temperature and bright sunshine were above the average, and the rainfall, while frequent, was moderate in amount. The first few days were indeed stormy, cold and showery—Easter Day, the 3rd,

being particularly inclement, with squalls and frequent showers of sleet and hail. After the 9th, however, the rainfall on the east coast of Ireland was small, amounting in the City of Dublin to only .282 inch. The duration of bright sunshine was estimated at 175.5 hours, compared with 205 hours in April, 1901, 199½ hours in 1902, and 137½ hours in 1903. The daily average duration of sunshine was 5.85 hours.

In Dublin the arithmetical mean temperature (49.1°) was 1.5° above the average (47.6°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 47.8° . In the forty years ending with 1904, April was coldest in 1879 (the cold year) (M. T. = 44.5°), and warmest in 1893 (M. T. = 51.4°).

The mean height of the barometer was 29.884 inches, or 0.034 inch above the average value for April—namely, 29.850 inches. The mercury rose to 30.313 inches at 9 a.m. of the 21st, and fell to 29.103 inches at 9 a.m. of the 13th. The observed range of atmospheric pressure was, therefore, 1.210 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 47.8° , or 5.9° above the value for March, 1904. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*Min.* × .476), the value is 48.7° , or 1.4° above the average mean temperature for April, calculated in the same way, in the thirty years, 1871–1900 inclusive, (47.3°). The arithmetical mean of the maximal and minimal readings was 49.1° , compared with a thirty years' (1871–1900 inclusive) average of 47.6° . On the 27th the thermometer in the screen rose to 62.0° —wind, W.; on the 21st the temperature fell to 35.7° —wind, N.W. The minimum on the grass was 32.1° , also on the 21st.

The rainfall was 1.118 inches, distributed over 19 days. The average rainfall for April in the thirty-five years, 1866–1900, inclusive, was 1.950 inches, and the average number of rainy days was 15. The rainfall, therefore, fell short of the average, while the number of rainy days exceeded it. In 1877 the rainfall in April was very large—4.707 inches on 21 days. On the other hand, in 1873, only .498 inch was measured on 8 days. In 1902, 2.061 inches fell on 16 days, and in 1903, 1.050 inches on 17 days.

Fog was observed on the 19th only. High winds were noted on as many as 17 days, reaching the force of a gale on the 1st, 2nd, 3rd, 5th and 9th. Hail fell on the 1st, 3rd, 9th and 22nd; snow or sleet on the 1st and 3rd. The temperature rose to or above 60° in the screen on four days (the 8th, 14th, 27th and 29th). It

failed to reach 50° on the 1st only. It never fell to 32° in the screen, and on only one night (the 21st) did it fall to or below 32° on the grass. The mean lowest temperature on the grass, was 39.1°, compared with 37.0° in 1903, 36.8° in 1902, 37.3° in 1901, 39.0° in 1900, 37.8° in 1899, 40.2° in 1898, 37.7° in 1897, 40.6° in 1896, 37.8° in 1895, 40.0° in 1894, 38.2° in 1893, 32.4° in 1892, 34.1° in 1891 and 1890, 34.4° in 1889, 34.6° in 1888, and 31.6° in 1887.

The rainfall in Dublin during the four months ending April 30th amounted to 9.056 inches on 74 days, compared with 10.176 inches on 78 days in 1903, 7.175 inches on 59 days in 1902, 6.520 inches on 58 days in 1901, 8.002 inches on 79 days in 1900, 7.557 inches on 71 days in 1899, 7.236 inches on 64 days in 1898, 9.554 inches on 79 days in 1897, 5.781 inches on 63 days in 1896, 10.233 inches on 65 days in 1895, only 3.203 inches on 46 days in 1891, and a thirty-five years' average of 8.120 inches on 65 days.

At the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.878 inches, the highest reading observed being 30.313 inches at 9 a.m. of the 21st, the lowest, 29.104 inches at 9 a.m. of the 13th. The mean temperature was 48.8°, the mean dry-bulb reading at 9 a.m. and 9 p.m. being 48.0°. Rain fell on 16 days to the amount of 1.125 inches, .190 inch being measured on the 2nd. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 168, giving a daily average of 5.6 hours. The corresponding figures for January, 1904, were 45.25 hours and 1.46 hours; for February, 37.25 hours and 1.28 hours; and for March, 89.75 hours and 2.9 hours.

Dr. B. H. Steede, M.D., D.P.H., reports that at the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 1.267 inches on 15 days, compared with 1.830 inches on 17 days in 1901, 3.017 inches on 13 days in 1902, and 1.178 inches on 12 days in 1903. The heaviest fall in 24 hours was .445 inch on the 2nd. Since January 1, 1904, 11.590 inches of rain have been measured on 74 days. The maximal shade temperature was 61.0° on the 29th, the minimal reading was 36.3° on the 1st.

Mr. R. Cathcart Dobbs, J.P., reports that at Knockdolian, Greystones, Co. Wicklow, the rainfall amounted to only .930 inch on 14 days, compared with 2.800 inches on 15 days in 1901, 3.105 inches on 14 days in 1902, and 1.165 inches on 9 days in 1903. The heaviest fall in 24 hours was .250 inch on the 2nd. The total

rainfall in 1904, up to April 30th, was 9.037 inches on 68 days, compared with 12.385 inches on 63 days in 1903, 9.215 inches on 48 days in 1902, 10.060 inches on 56 days in 1901, 13.191 inches on 70 days in 1900, 12.380 inches on 70 days in 1899, 8.890 inches on 56 days in 1898, 13.080 inches on 80 days in 1897, and only 5.686 inches on 50 days in 1896.

According to Mr. Robert O'Brien Furlong, C.B., at Cloneevin, Killiney, Co. Dublin, 1.03 inches of rain fell on 15 days. The maximal fall in 24 hours was .20 inch on the 7th. After the 8th only .30 inch fell. Hail fell on the 3rd and 9th. The average rainfall in April of the nineteen years, 1885-1903, was 1.813 inches on 14.3 days. Since January 1, 1904, 9.02 inches of rain fell at this station on 69 days, compared with 9.67 inches on 76 days in 1903, 8.08 inches on 59 days in 1902, 7.62 inches on 59 days in 1901, 9.23 inches on 77 days in 1900, 9.02 inches on 65 days in 1899, 7.74 inches on 61 days in 1898, 10.36 inches on 83 days in 1897, 5.27 inches on 55 days in 1896, and 11.28 inches on 66 days in 1895.

Dr. Arthur S. Goff reports the rainfall at Lynton, Dundrum, Co. Dublin, as 1.48 inches on 18 days, compared with 1.35 inches on 16 days in 1903, 2.63 inches on 16 days in 1902, and 1.19 inches on 12 days in 1901, the greatest daily rainfall being .23 inch on the 2nd. The mean shade temperature was 48.9°, compared with 48.3° in 1901, 46.6° in 1902, and 45.9° in 1903. The thermometric range was from 62° on the 29th to 36° on the 1st. Hail showers fell on the 1st, 9th, and 22nd.

At the Railway Hotel, Recess, Connemara, Co. Galway, Mr. Albert A. Smith returns the rainfall at 4.639 inches on 23 days, .510 inch being recorded on the 13th. Heavy showers of hail occurred frequently, and the weather was generally cold and windy.

At the Ordnance Survey Office, Phoenix Park, Dublin, 1.351 inches of rain fell on 18 days, the greatest rainfall in 24 hours being .260 inch on the 3rd.

In Cork, according to Mr. W. Miller, the rainfall amounted to 1.28 inches on 15 days, .20 inch being measured on the 17th. Since January 1, 1904, 14.91 inches of rain have fallen in Cork, against an average for the first four months of the year of 12.78 inches.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health for Kingstown, reports that the mean temperature at that health resort was 48.8°, being 2.6° above the average

for April during the previous 6 years, the extremes being—highest, 62.2° on the 27th; lowest, 36.5° on the 10th. At Bournemouth the mean was 50°, the extremes being—highest, 66° on the 9th, 20th and 21st; lowest, 37° on the 18th. The mean daily range was 11.7°, at Bournemouth it was 14.8°. The mean humidity was 75 per cent. The mean temperature of the sea at Sandycove bathing-place was 44.4°, being 0.2° above the average for April during the previous 6 years. The rainfall at Kingstown was 1.01 inches on 16 days, being 0.94 below the average of 14 previous years (1873-83) and (1901-03). The total duration of bright sunshine was 184.3 hours at Kingstown, 174 hours at the Ordnance Survey Office, Phoenix Park, 113.4 hours at Valentia, 142.3 hours at Parsonstown, 166.8 hours at Southport, 164.2 hours at Bournemouth, and 146.6 hours at Eastbourne.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Tabloids of Veronal.

REPORTS on the action of the new hypnotic, veronal, have created a favourable impression which it is hoped may be sustained in the light of further investigation. Veronal is a synthetic compound, chemically described as di-ethyl-malonyl-urea. It occurs in colourless crystals of a slightly bitter taste, and is soluble in 145 parts of water at 20° C. (68° F.). Its therapeutic action is somewhat similar to that of trional, but in some cases it appears to be preferable to that agent. Doses of 0.5 gm. to 1 gm. have been found to induce refreshing sleep, and the drug appears to be well tolerated by most patients. Its action, however, is in some cases very marked, and it is always well to begin with a $\frac{1}{2}$ gramme dose until the susceptibility of the patient is ascertained. "Tabloid" veronal will be found the most accurate and convenient means of administering the drug. The "tabloid" products are prepared by Messrs. Burroughs, Wellcome & Company, Snow Hill Buildings, London, E.C. They are so made that they disintegrate on reaching the stomach and the effect is therefore promptly manifested. "Tabloid" veronal is issued of two strengths, 0.5 gramme (gr. 7.71) and 1 gramme (gr. 15.43) in bottles of 25.

In Memoriam.

AUSTIN MELDON, F. & Ex-P.R.C.S.I., M.R.C.P.I., J.P., D.L.,
Consulting Surgeon to Jervis-street, Hospital, Dublin.

FOR a second time within a month the hand of Death has taken away with startling suddenness a notable personality in the ranks of the medical profession in Dublin. On the early morning of Friday, April 8, Sir Philip Smyly passed from the scene of his earthly labours after a few hours' illness. And now we have to chronicle the instantaneous death on the evening of Thursday, April 28, at his residence, 15 Merrion-square, Dublin, of MR. AUSTIN MELDON, one of the best-known and most esteemed hospital surgeons of this city. The suddenness of the call may be realised when we state that MR. MELDON went about his duties as usual on the day of his death, which occurred as he was smoking a cigar in his study after dinner—the cigar was seen by his wife to drop from his hand, and he was dead.

AUSTIN MELDON was born on August 26, 1844, at Milltown, Co. Dublin. He was a son of the late James Dillon Meldon, Esq., and his wife, Bedelia Ingham, and was a scion of an old Celtic family from Fore, Co. Westmeath. From Tullybeg College, Co. Kildare, young MELDON passed to the Catholic University (now "University College"), St. Stephen's-green, Dublin, where he had a brilliant career, winning gold medals in Midwifery and Diseases of Women and Children, in Surgery and Practice of Medicine, and first prizes in the same subjects. In the year 1864 he was awarded the gold medal of the Pathological Society of Dublin for an Essay on the "Pathology and Diagnosis of Diseases of the Ovaries." In the following year he became a Licentiate in Medicine and Midwifery of the Royal College of Physicians of Ireland, and took the Letters Testimonial of the Royal College of Surgeons in Ireland. To the Fellowship of the latter body he was admitted after examination in 1874, obtaining the Membership of the Royal College of Physicians in 1880. From June, 1889, until June, 1890, he filled the position of President of the Royal College of Surgeons, and during his year of office he

In Memoriam.

presided over the Surgical Section of the Royal Academy of Medicine in Ireland. Among other professional honours may be mentioned the fact that on three occasions he was chosen as President of the Irish Medical Association. Early in his career he began to devote particular attention to the subjects of gout, rheumatism, and skin diseases, on which he from time to time contributed a number of valuable papers. For a long time he was attached to the staff at Jervis-street Hospital, and at the time of his death he was Consulting Surgeon to that Institution. He was also Consulting Surgeon to the National Lying-in-Hospital, Holles-street. MR. MELDON was a Justice of the Peace and a Deputy Lieutenant for the County of Dublin.

In addition to numerous communications to various Medical Societies, AUSTIN MELDON was author of "A Treatise on Gout, Rheumatism and Chronic Rheumatic Arthritis," published in 1873; "A Treatise on Skin Diseases" (1873); "Fourteen Consecutive Cases of Successful Lithotomy" (1882); and "A Treatise on Gout" (1885). One of his latest contributions to medical scientific literature was an Address on the Distribution of Cancer in Ireland, delivered in the Theatre of Jervis-street Hospital at the opening of the Winter Session of 1902-1903.

MR. MELDON was twice married—first in 1867, to Miss Margaret Ryan of Tipperary, by whom he had two children—a son and a daughter; secondly, to Miss Katharine Pugin, by whom he had also two children—a son and a daughter. His younger son, Dr. George Edgar Pugin Meldon, is a graduate in Arts and Medicine of the University of Dublin, and a Fellow of the Royal College of Surgeons in Ireland. Since his father's death he has been appointed a Visiting Surgeon to the Westmoreland Lock Hospital, Dublin.

MR. MELDON had a charming personality, and was one of the most popular members of the Medical Profession in Dublin. The universal esteem with which he was regarded was pathetically shown by the large gathering of friends who attended on the morning of the funeral to pay the last tribute of respect to his memory.

J. W. M.

INDEX

TO THE ONE HUNDRED AND SEVENTEENTH VOLUME

-
- Abdomen, new methods of opening and closing the, Dr. Ernest H. Tweedy on, 460.
- Abortion, 417.
- Abscess of the brain, Dr. Parsons on, 68.
- Academy of Medicine in Ireland, the Royal, 65, 134, 222, 302, 382.
- Accidental Hæmorrhage, 411.
- Action of radium on some organisms, by Drs. Henry H. Dixon and Wigham, 161.
- Ætiology—of leukæmia, Dr. T. G. Moorhead on, 66; of ozæna, 299.
- Africa, South, Brown's Guide to, *Rev.*, 214.
- Allan, Dr. James W., memoranda on infectious diseases, *Rev.*, 360.
- American Journal of Orthopædic Surgery, *Rev.*, 198.
- Anatomy and Physiology, Section of, in the Royal Academy of Medicine in Ireland, 223.
- Anatomy of the pelvic fascia, Dr. R. A. Stoney on, 223.
- Aneurysms of cerebral arteries, Dr. Earl on, 66.
- Antifebrin tabloids, 80.
- Antiquity of hospitals, 281.
- Antitoxin in diphtheria, Dr. H. C. MacQuaide on, 173.
- Anti-treating League, St. Patrick's, 381.
- Aphonia in the puerperium, 424.
- Appendicitis, Dr. H. R. Townsend on, 308.
- Army, health of the, 373.
- Atkins, Dr. T. Gelston, chronic jaundice from gall-stones, 144; surgical treatment of gall-stones, 308; renal calculus, 461; gastro-jejunostomy, 461; excision of elbow, 461.
- Atlas of illustrations of clinical medicine, surgery and pathology, New Sydenham Society, *Rev.*, 363.
- Ayer Clinical Laboratory of the Pennsylvania Hospital, *Rev.*, 284.
- Baillière, J. B., et fils, bibliography of science, 235.
- Ball, Sir Charles, on gastric surgery, 63.
- Barton, Dr. Wilfred M., and Dr. Wells, a Thesaurus of medical words and phrases, *Rev.*, 29.
- Bastian, Dr. H. Charlton, studies in heterogenesis, *Rev.*, 290.
- Belfast, Gynæcological Report of the Mater Hospital, by Dr. A. Dempsey, 384.
- Benson, Mr. Arthur H., and Dr. Langford Symes, orbital tumour, 65.
- Bettws-y-Coed as a health-resort, *Rev.*, 38.
- Bibliographical Notices, 21, 111, 189, 282, 356, 429.
- Bickham, Dr. Warren Stone, text-book of operative surgery, *Rev.*, 118.
- Bilstein, Dr. Emma S., translation of Stöhr's text-book of histology, *Rev.*, 430.
- Biological Association, University of Dublin, 54.
- Bishop, Mr. E. Stanmore, essentials of pelvic diagnosis, *Rev.*, 218.
- Blood-films, making of, 224.
- Books of a year, medical, 225.
- Booth, Dr. J., stimulants in treatment, 461.
- Bordeaux, International Congress of Otology at, 396.
- Boston City Hospital, report of the, *Rev.*, 432.
- Bouchier-Hayes, Dr. John, tetany and chronic affections of the stomach, 272.
- Boy's venereal peril, *Rev.*, 37.
- Brain, abscess of the, Dr. Parsons on, 68.
- Breast, tumour in skin of, Dr. W. S. Haughton on, 67; cancer of, Dr. J. T. Wigham on, 69.
- Breech and footling presentation, 347.
- Brown, A. Samler, and G. Gordon Brown, the Guide to South Africa, *Rev.*, 214.

- Browne, Mr. Edgar A., and Dr Stevenson, squint in children, *Rev.*, 429.
- Buchanan, Dr. R. J. M., and Dr. Hope, Husband's forensic medicine, *Rev.*, 195.
- Buchanan, Major W. J., medico-legal notes from India, 81.
- Bulletin of the Ayer Clinical Laboratory, *Rev.*, 284.
- Burdett's Official Nursing Directory, 1903, *Rev.*, 118; Hospitals and Charities, 1904, *Rev.*, 372.
- Burroughs, Wellcome, Messrs., & Co.—New tabloids, 80, 240, 397, 470; new hypodermic pocket case, 397.
- Butyl-chloral hydrate and gelsemin tabloid, 397.
- Cæsarean section, 337.
- Calcified fibro-myoma, Dr. W. C. Neville on, 307.
- Cameron, Sir Charles A., report on public health, 373, 444.
- Campbell, Mr. Kenneth, the refraction of the eye, *Rev.*, 199.
- Cancer—of rectum, Dr. W. S. Haughton on, 67; of breast, Dr. J. T. Wigham on, 69; of ovary, Dr. Neville, on, 223.
- Carpenter, Dr. George, golden rules for diseases of infants and children, *Rev.*, 121; Reports of the Society for the Study of Disease in Children, *Rev.*, 123.
- Carr, Dr. Walter Lester, Transactions of the American Pediatric Society, *Rev.*, 124.
- Carter, Mr. Robert Brudenell, and Mr. Arthur H. Cheatle, sight and hearing in childhood, *Rev.*, 125; doctors and their work, *Rev.*, 369.
- Catechism Series. Physiology, Part IV., *Rev.*, 30; Physics, Part II., *Rev.*, 132.
- Caulfield, S. F. A., the home nurse, *Rev.*, 117.
- Cautley, Dr. Edmund, natural and artificial methods of feeding infants and young children, *Rev.*, 122.
- Cerebral—arteries, aneurysms of, Dr. Earl on, 66; abscess, Dr. Parsons on, 68.
- Cheatle, Mr. Arthur H., Mr. Carter and, sight and hearing in childhood, *Rev.*, 125.
- Children—works on diseases of, *Rev.*, 120; clinical pictures of diseases of, Dr. Langford Symes on, 165, 262, 349.
- Child-study and school hygiene, 319.
- Christophers, Mr. S. R., Dr. Stephens and, practical study of malaria, *Rev.*, 111.
- Clarke, Mr. Ernest, errors of accommodation and refraction of the eye, *Rev.*, 194.
- Climate of Kingstown, Co. Dublin. Dr. J. Byrne Power on the, 109.
- Climatotherapy, French Congress of, 238.
- Clinical observations in Eastern Hospitals, by Dr. Percy Gerrard, 275.
- Clinical pictures of children's diseases, Dr. Langford Symes on, 165, 262, 349.
- Clinical Report of the Rotunda Lying-in Hospital, by Dr. R. D. Purefoy, 225, 241, 336, 411.
- Cohen, Dr. Solomon Solis, a system of physiologic therapeutics, *Rev.*, 33.
- Convulsions, 337.
- Corby, Dr. H., ovarian dermoid cyst, 144; epithelioma auris, 226.
- Cork Medical and Surgical Society, 70, 144, 226, 308, 461.
- Cotter, Dr. J., plea for earlier operation in certain abdominal cases, 70; congenital malformations, 144; intestinal perforation cured by operation, 226; treatment of wry neck, 461.
- Craniotomy, 418.
- Cullingworth, Dr. Charles J., Charles White, F.R.S., *Rev.*, 292.
- Cummins, Dr. Ashley, tricuspid stenosis, 70.
- Cunéo, B., and P. Poirier, special study of the lymphatics, *Rev.*, 207.
- Cunning, Mr. Joseph, aids to surgery, *Rev.*, 438.
- Da Costa, Dr. John Chalmers, modern surgery, *Rev.*, 133.
- Darier, Dr. A., ocular therapeutics, *Rev.*, 32.
- Dawson, Dr. W. R., progress of neurology and psychiatry, 50, 295; glycosuria and insanity, 457.
- Decidual endometritis, 425.
- Delamere, G., general anatomy of the lymphatics, *Rev.*, 207.
- Dempsey, Dr. A., Gynæcological Report of the Mater Hospital, Belfast, 384.
- Dench, Dr. Edward Bradford, diseases of the ear, *Rev.*, 31.
- Dercum, Dr. Francis X., rest, mental therapeutics, suggestion, *Rev.*, 33.
- Dermoid cysts, double-sided, Dr. Neville on, 306.

- Diabetes mellitus, the tendo-Achillis jerk in, by Dr. R. T. Williamson, 237.
 Diagnosis of perforation in typhoid fever, Dr. Parsons on, 98.
 Diphtheria, antitoxin in, Dr. H. C. MacQuaide on, 173.
 Discoveries of busy practitioners, 395.
 Dixon, Dr. Henry H., and Dr. Wigham, the action of radium on some organisms, 161.
 Dobson, Mr. J. F., and Mr. Mayo Robson, diseases of the gall-bladder and bile-ducts, *Rev.*, 367.
 Dorland, Dr. W. A. Newman, the Illustrated Medical Dictionary, *Rev.*, 42.
 Douglas, Dr. Richard, surgical diseases of the abdomen, *Rev.*, 40.
 Dowse, Dr. Thomas Stretch, lectures on massage and electricity in the treatment of disease, *Rev.*, 49.
 Dublin—University of, Biological Association, 54; Calendar for 1903–1904, *Rev.*, 119, 293.
 Dublin, rainfall of 1903 in, 153.
- Earl, Dr. H. C., aneurysms of cerebral arteries, 66; horse-shoe kidneys, 222; deformity of liver, 222; teratoma, 306; sarcoma of the vagina, 384.
 Eclampsia, puerperal, Dr. P. J. O'Brien on, 308; Dr. Purefoy on, 338.
 Edgar, Prof. J. Clifton, the Practice of Obstetrics, *Rev.*, 436.
 Edgar, Mr. P., and Dr. Paul, Ruge's study of malarial diseases, *Rev.*, 43.
 Edinburgh—Royal College of Surgeons, 64, 355, 460; Royal College of Physicians, 460.
 Edinburgh Medical Journal, *Rev.*, 131.
 Education, modern, from a physical and mental standpoint, Dr. R. B. M'Vittie on, 302.
 Elbow, excision of, Dr. T. Gelston Atkins on, 461.
 Ellison, Mary Anne, manual for students of massage, *Rev.*, 116.
 Embalming, paraffin method of, 222.
 Endometritis, 223.
 Endothelioma—of the peritoneum, Mr. Gunn's case of, 305; subcutaneous, Mr. E. H. Taylor and Dr. O'Sullivan on, 385.
 Enteric fever—diagnosis of perforation in, Dr. Parsons on, 98; treatment of, Sir John Moore on, 134; skin lesions after, 158; late effects of, on the heart and vessels, 318.
- Enuresis in children, Dr. Percy Lewis on, 320.
 Epithelioma auris, Dr. Corby on, 226.
 Erythema marginatum perstans of the face, Dr. Travers Smith's case of, 134.
- Faculty of Physicians and Surgeons of Glasgow, 460.
 Feet, sweating of the, 71.
 Fenwick, Mr. E. Hurry, value of ureteric meatoscopy, *Rev.*, 440.
 Fever, enteric or typhoid, diagnosis of perforation in, Dr. Parsons on, 98; treatment of, Sir John Moore on, 134; skin lesions after, 158; late effects of, on the heart and vessels, 318.
 Fibro-myoma, calcified, Dr. Neville on, 307.
 FitzGerald, Dr. Gordon, tubo-ovarian cyst, 459.
 Fothergill, Dr. W. E., manual of midwifery, *Rev.*, 217.
 French bibliography of science, 235.
 French Congress of Climatotherapy, 238.
 Friedrichshall natural aperient water, 307.
 Fussell's pure rich cream, 158.
- Galabin, Dr. A. L., diseases of women, *Rev.*, 215.
 Gall-stone, removal of, by Dr. Yelverton Pearson, 71.
 Gall-stones—chronic jaundice from, Dr. Gelston Atkins' case of, 44; surgical treatment of, Dr. Gelston Atkins on, 308.
 Gant, Mr. Frederick James, what a piece of work is man! *Rev.*, 39.
 Gastro-jejunostomy, Dr. Atkins on, 461.
 Gastro-tetany, Dr. T. G. Moorhead on, 458.
 Gerrard, Dr. Percy N., clinical observations in Eastern Hospitals, 275; traumatic rupture of the spleen, 425.
 Gibson, Dr. G. A., and Dr. Alexis Thomson, the Edinburgh Medical Journal, *Rev.*, 131.
 Glasgow, Faculty of Physicians and Surgeons of, 460.
 Glassington, Mr. Charles W., golden rules of dental surgery, *Rev.*, 368.
 Glenn, Dr., specimens, 459.
 Glycosuria and insanity, Dr. Dawson on, 457.
 Gould, Dr. George M., Saunders' Year-book of Medicine and Surgery, *Rev.*, 371, 442.

- Gould, Mr. A. Pearce, elements of surgical diagnosis, *Rev.*, 200.
- Gowers, Sir William R., lectures on diseases of the nervous system, *Rev.*, 282.
- Graham, Dr. Douglas, treatise on massage, *Rev.*, 115.
- Gunn, Mr. L. G., endothelioma of the peritoneum, 305; implantation (ovarian) tumours, 305; kidney tumours, 385.
- Guy's Hospital Reports, *Rev.*, 442.
- Gynæcological Report of the Mater Hospital, Belfast, by Dr. A. Dempsey, 384.
- Hæmorrhage—accidental, 411; *post-partum*, 413.
- Hall, Dr. F. de Havilland, medical examination for life assurance, *Rev.*, 23.
- Hall, Dr. J. Walker, the purin bodies of food stuffs, *Rev.*, 126.
- Hare, Dr. Francis, mechanism of the paroxysmal neuroses, *Rev.*, 357.
- Haughton, Dr. W. S., tumour in skin of breast, 67; cancer of rectum, 67.
- Health, report on public, by Sir Charles A. Cameron, 373, 444.
- Health of the Army, 373.
- Hillier, Dr. Alfred, the prevention of consumption, *Rev.*, 129.
- Hime, Dr. Maurice C., Fanny Haire—The Unlucky Golfer, *Rev.*, 443.
- Homfray, Mr. D., Mr. C. T. Kingzett and, pocket dictionary of hygiene, *Rev.*, 211.
- Hope, Dr. E. W., Dr. R. J. M. Buchanan and, Husband's forensic medicine, *Rev.*, 195.
- Horse-shoe kidneys, 222.
- Hospital, Report of the Boston City, *Rev.*, 432.
- Hospital Reports, the Johns Hopkins, *Rev.*, 189.
- Hospital, Rotunda, Clinical Report of the, by Dr. Purefoy, 225, 241, 336, 411.
- Hospitals, antiquity of, 281.
- Housing of the poor, 182.
- Houston, Dr. A. C., report on lead-polluted water, 379.
- How to open a book, 319.
- Hulbert, Mr. H. H., natural physical remedies, *Rev.*, 202.
- Husband's forensic medicine, toxicology, and public health, *Rev.*, 195.
- Hutchinson, Mr. Jonathan, New Sydenham Society's Atlas, *Rev.*, 363.
- Hutchinson, Mr. Jonathan, jun., Treves's manual of operative surgery *Rev.*, 356.
- Hydramnios, 418.
- Hypodermic "tabloid" brand pocket case, 397.
- Implantation (ovarian) tumours, Mr. Gunn on, 305.
- India, medico-legal notes from, by Major W. J. Buchanan, 81.
- Infected shell-fish, 452.
- Ingram and Royle, Messrs., natural mineral waters, *Rev.*, 368.
- "In Memoriam"—Charles Frederick Moore, M.D., 159; Sir Philip Crampton Smyly, M.D., 398; Austin Meldon, F.R.C.S.I., D.L., 471.
- Inoculation of soil with infected sewage, 444.
- Insanity, Glycosuria and, Dr. Dawson on, 457.
- Intestinal—obstruction, acute, Dr. H. R. Townsend on, 71; Mr. William Taylor on, 321; perforation cured by operation, Dr. Cotter on, 226.
- Intratracheal injections in pulmonary tuberculosis, Dr. T. G. Moorhead on 15.
- Intubation of the larynx, final results of, 300.
- Ireland—Royal Academy of Medicine in, 65, 134, 222, 302, 382; Public Health Problems in, Sir John Moore on, 178, 302; Royal University of, 456; Calendar, *Rev.*, 439.
- Jacobi, Professor, portfolio of dermochromes, *Rev.*, 127.
- Jaundice, chronic, from gall-stones. Dr. Gelston Atkins' case of, 144.
- Jellett, Dr. Henry, short practice of gynæcology, *Rev.*, 220.
- Joannovics, Dr. Georges, recherches expérimentales sur la pathologie de l'ictère, *Rev.*, 128.
- Johnston, Dr. Henry M., making of blood films, 224.
- Johns Hopkins Hospital Reports, *Rev.*, 189.
- Jones, Mr. Robert, Mr. A. H. Tubby and, modern methods in the surgery of paralysis, *Rev.*, 46.
- Joris, Dr. Hermann, les rapports anatomiques des neurones, *Rev.*, 239.
- Keen, Dr. Wm. W., and Dr. J. W. White, text-book of surgery, *Rev.*, 438.

- Kennedy, Mr. Denis, on a new retention splint for congenital talipes equino-varus, 255.
- Kidney tumours, Dr. L. G. Gunn on, 385.
- Kingstown, Co. Dublin, the climate of, Dr. J. Byrne Power on, 109.
- Kingzett, Mr. C. T., and Mr. D. Homfray, a pocket dictionary of hygiene, *Rev.*, 211.
- Knight, Dr. Charles H., diseases of the nose and throat, *Rev.*, 113.
- Kocher, Dr. Theodor, text-book of operative surgery, *Rev.*, 35.
- Korsakoff's disease, 295.
- Kronthal, relations of the nervous system to the mind, 298.
- Larynx, intubation of the, 300.
- Law, Dr. S. Horace, report on rhinology and laryngology, 299.
- Lead-polluted water, 379.
- Leaf, Cecil H., Delamare, Poirier and Cunéo on the lymphatics, *Rev.*, 207.
- League, St. Patrick's Anti-treating, 381.
- Leukæmia, ætiology of, Dr. T. G. Moorhead on, 66.
- Lewis, Dr. Percy, enuresis in children, 320.
- Lindsay, Dr. James A., lectures on diseases of the lungs and heart, *Rev.*, 361.
- "Liquor carbonis detergens" (Wright), 158.
- Literary note, 319.
- Lomer, Dr. R., Zur Frage der Heilbarkeit des Carcinoms, *Rev.*, 202.
- Luke, Mr. Thomas D., anæsthesia in dental surgery, *Rev.*, 200.
- Lumsden, Dr., on gastric disease, 64.
- Lying-in Hospital, Clinical Report of the Rotunda, by Dr. R. D. Purefoy, 225, 241, 336, 411.
- Macan, Sir Arthur V., exhibitions, 384.
- MacQuaide, Dr. H. C., antitoxin in diphtheria, 173.
- Malgat, Dr. J., la cure solaire de la tuberculose pulmonaire à Nice, *Rev.*, 365.
- Mania, lying-in, 341.
- Marjolin, warty ulcer of, 381.
- Martin, Dr. Sidney, manual of general pathology for students, *Rev.*, 287.
- Massage, recent works on, *Rev.*, 115.
- Mathews, Dr. Joseph M., treatise on diseases of the rectum, anus, and sigmoid flexure, *Rev.*, 25.
- Maunsell, Mr. R. Charles B., surgical intervention in some stomach diseases, 1, 54.
- Mayo Robson, Mr., on gastric surgery, 54; diseases of the gall-bladder and bile-ducts, *Rev.*, 367.
- McVittie, Dr. R. B., modern education from a physical and mental standpoint, 302.
- McWeeney, Professor E. J., paraffin method of embalming, 222; ring-worm, 223.
- Medical books of a year, 225.
- Medical Miscellany, 54, 134, 222, 302, 457.
- Medical Phonographers, Society of, 307.
- Medicine—in Ireland, Royal Academy of, 65, 134, 222, 302, 382.
- Medicine, Section of, in the Royal Academy of Medicine in Ireland, 134, 382, 457.
- Medicine, State, Section of, in the Royal Academy of Medicine in Ireland, 302.
- Medico-legal notes from India, by Major W. J. Buchanan, 81.
- Meldon, Mr. Austin, "In Memoriam," 471.
- Melland, Dr. Charles H., pocket-book of clinical methods, *Rev.*, 289.
- Merging of two medical journals, 237.
- Meteorological notes, 76, 149, 231, 313, 390, 466.
- Midwives Act (1902), effect of, on Irish Training Institutions and Nurses, Mr. Alfred J. Smith on, 135.
- Milk: human and bovine, Dr. Walter G. Smith on, 382, 401.
- Mind, relations of the nervous system to the, 298.
- Missed labour, 336.
- Modern education from a physical and mental standpoint, Dr. R. B. McVittie on, 302.
- Moore, Dr. Charles Frederick, "In Memoriam," 159.
- Moore, Sir John W., sanitary and meteorological notes, 72, 145, 227, 309, 386, 462; treatment of enteric fever, 134; public health problems in Ireland, 178, 302.
- Moorhead, Dr. T. Gillman, treatment of pulmonary tuberculosis by intra-tracheal injections, 15; ætiology of leukæmia, 66; gastro-tetany, 458.
- Morrissey, Dr. D., serum treatment of tetanus, 308.
- Multiple pregnancy, 347.
- Mummery, Mr. P. Lockhart, the after-treatment of operations, *Rev.*, 48.

- Myoma uteri, Dr. Yelverton Pearson on, 71.
- Nash, Dr. J. T. C., simple rules for preventing infantile complaints and deaths among infants, *Rev.*, 126.
- Natural mineral waters, *Rev.*, 368.
- Nervous system, relation of the, to the mind, 298.
- Neurology and psychiatry, reports on the progress of, by Dr. W. R. Dawson, 50, 295.
- Neustätter, Dr. O., die Reform der Frauenkleidung auf gesundheitslicher Grundlage, *Rev.*, 36.
- Neville, Dr. Wm. Cox, endometritis, 223; cancer of ovary, 223; double-sided dermoid cysts, 306; calcified fibro-myoma, 307.
- New Preparations and Scientific Inventions, 80, 158, 240, 397, 470.
- New Sydenham Society's Atlas, *Rev.*, 363.
- Nice, la cure solaire de la tuberculose pulmonaire à, par le Dr. J. Malgat, *Rev.*, 365.
- Norström, Dr. Gustaf, chronic headache and its treatment by massage, *Rev.*, 36.
- Notification, 178.
- Nursing, recent works on, *Rev.*, 117.
- O'Brien, Dr. P. J., puerperal eclampsia, 308.
- Obstetrics, Section of, in the Royal Academy of Medicine in Ireland, 135, 225, 384, 459.
- Obstruction, acute intestinal, Dr. H. R. Townsend on, 71; Mr. William Taylor on, 321.
- Ontario, Public Health in, 451.
- Orbital tumour, Mr. A. H. Benson and Dr. Langford Symes on, 65.
- Organisms, action of radium on some, Drs. H. H. Dixon and Wigham on, 161.
- Original communications, 1, 81, 161, 241, 321, 401.
- O'Sullivan, Dr., Mr. E. H. Taylor and, subcutaneous endothelioma, 385.
- O'Sullivan, Dr. P. T., tuberculin in pulmonary tuberculosis, 226; pseudo-hypertrophic muscular paralysis, 461.
- Orthopædic Surgery, the American Journal of, *Rev.*, 198.
- Otology, Seventh International Congress of, 396.
- Ovarian—dermoid cyst, Dr. Corby's case of, 144; implantation tumours, Mr. Gunn's case of, 305.
- Ovaries, secondary cancer in, Dr. J. T. Wigham on, 69.
- Ovary, cancer of, Dr. W. C. Neville on, 223.
- Ozæna, the ætiology of, 299.
- Paraffin method of embalming. Dr. McWeeney on, 222.
- Parsons, Dr. Alfred T., abscess of the brain, 68; diagnosis of perforation in typhoid fever, 98.
- Pathology, Section of, in the Royal Academy of Medicine in Ireland, 65, 66, 222, 304, 385.
- Pathogenic agent of syphilis, 395.
- Patrick's, St., Anti-treating League, 381.
- Paul, Dr. M. Eden, and Mr. Edgar Ruge's malarial diseases, *Rev.*, 43.
- Pawlow's gastric fistula operation, 224.
- Pearson, Dr. C. Yelverton, myoma uteri, 71; removal of gall-stone, 71.
- Pelvic fascia, anatomy of the, Dr. R. A. Stoney on, 223.
- Pennsylvania, University of, *Rev.*, 204.
- Pepper, William, Laboratory of Clinical Medicine, contributions from the, *Rev.*, 204.
- Perforation in typhoid fever, Dr. Parsons on, 98.
- Periscope, 236, 318, 395.
- Peritoneum, endothelioma of the, Mr. Gunn's case of, 305.
- Phonographers, Society of Medical, 307.
- Physicians, Royal College of, Edinburgh, 460.
- Physiology, Section of Anatomy and, in the Royal Academy of Medicine in Ireland, 223.
- Placenta, manual removal of, 348.
- Plague, rats and, 449.
- Pneumatic tourniquets, 396.
- Poirier, P., and B. Cunéo, special study of the lymphatics, *Rev.*, 207.
- Poore, Dr. G. Vivian, essays on rural hygiene, *Rev.*, 212.
- Poor, housing of the, 182.
- Poor-Law Medical Service, 186.
- Post-partum hæmorrhage, 413.
- Power, Dr. J. Byrne, the climate of Kingstown, 109.
- Practitioners, discoveries by busy, 395.
- Preparations, New, 80, 158, 240, 397, 470.
- Preservation of milk, 408.
- Pringle, Mr. J. J., Jacobi's portfolio of dermochromes, *Rev.*, 127.

- Pringle, Dr. Harold, Pawlow's gastric fistula operation, 224.
- Pritchard, Dr. Eric, physiological nursery charts, *Rev.*, 123.
- Prostate, pathology of senile hypertrophy of the, Mr. Tobin on, 304.
- Pseudo-hypertrophic muscular paralysis, Dr. P. T. O'Sullivan on, 461.
- Psychiatry, neurology and, progress of, by Dr. W. R. Dawson, 50, 295.
- Psychiatry, report on the progress of neurology and, by Dr. W. R. Dawson, 295.
- Public health in Ontario, 451.
- Public Health Problems in Ireland, Sir John Moore on, 178, 302.
- Public Health, Report on, by Sir C. A. Cameron, 373, 444.
- Puerperal eclampsia, Dr. P. J. O'Brien on, 308.
- Pulmonary tuberculosis, intratracheal injections in, Dr. T. G. Moorhead on, 15.
- Purefoy, Dr. R. D., report of the Rotunda Hospital, 225, 241, 336, 411.
- Qualifications in Public Health, 179.
- Radium, action of, on some organisms, by Dr. Henry Dixon and Dr. Wigham, 161.
- Rainfall of Dublin in 1903, 153.
- Ransome, Dr. Arthur, principles of "open-air" treatment of phthisis, *Rev.*, 22.
- Rats, destruction of, 449.
- Rectum, cancer of, Dr. W. S. Haughton on, 67.
- Renal calculus, Dr. T. Gelston Atkins on, 461.
- Report of the Rotunda Hospital, by Dr. R. D. Purefoy, 225, 241, 336, 411; of the Boston City Hospital, *Rev.*, 432.
- Reports, special—Neurology and Psychiatry, by Dr. W. R. Dawson, 50, 295; Rhinology and Laryngology, by Dr. S. Horace Law, 299; Public Health, by Sir Charles A. Cameron, 373, 444.
- Retention splint for congenital talipes equino-varus, Mr. Denis Kennedy on a, 255.
- Reviews and Bibliographical Notices, 21, 111, 189, 282, 356, 429.
- Rickets, Dr. Langford Symes on, 165, 262, 349.
- Ringworm, Dr. McWeeney on, 223.
- Robinson, Dr. Byron, the peritoneum, *Rev.*, 27.
- Robinson, Mr. Mark, Guide to urine testing, *Rev.*, 434.
- Robson, Mr. A. W. Mayo—on gastric surgery, 54; diseases of the gall-bladder and bile-ducts, *Rev.*, 367.
- Rossiter, Rev. John J., St. Patrick's Anti-treating League, 381.
- Rotunda Hospital, Dr. Purefoy's report of the, 225, 241, 336.
- Royal Academy of Medicine in Ireland, 65, 134, 222, 302, 382.
- Royal Army Medical Corps, 236.
- Royal College of Physicians of Edinburgh, 460.
- Royal College of Surgeons of Edinburgh, 64, 355, 460.
- Royal University of Ireland, 456; Calendar, *Rev.*, 439.
- Ruge, Dr. Reinhold, introduction to the study of malarial diseases, *Rev.*, 43.
- Rupture—of uterus, 419; of the spleen, Dr. P. N. Gerrard on, 425.
- Sanatorium for West Wales, 110.
- Sanitary and meteorological notes, 72, 145, 227, 309, 386, 462.
- Sarcoma of the vagina, Dr. H. Jellett and Dr. Earl on, 384.
- Saunders' Year-book of Medicine and Surgery, *Rev.*, 371, 442.
- Sawyer, Sir James, contributions to practical medicine, *Rev.*, 370.
- Schaper, Dr. Alfred, Stöhr's text-book of histology, *Rev.*, 430.
- School hygiene, 319.
- Scientific inventions, 80, 158, 240, 397, 470.
- Scott's Emulsion Doctor's Diary, *Rev.*, 114.
- Scudder, Dr. Charles Locke, treatment of fractures, *Rev.*, 434.
- Serum treatment of tetanus, Dr. D. Morrissey on, 308.
- Shaw, Dr. James, the physiognomy of mental diseases and degeneracy, *Rev.*, 294.
- Sheild, Mr. A. Marmaduke, surgical lectures and essays, *Rev.*, 41.
- Shell-fish, infected, 452.
- Skin lesions after enteric fever, 158.
- Smith, Dr. Travers, exhibitions, 134, 222.
- Smith, Mr. Alfred J., effect of "Midwives Act, 1902," on Irish nurses, 135; exhibit, 225; tuberculosis of the vaginal portion of the cervix, 459.

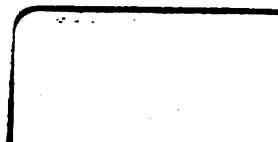
- Smith, Dr. Walter G., Milk: human and bovine, 382, 401.
- Smith, Major F., modern bullet wounds and modern treatment, *Rev.*, 198.
- Smyly, Dr. W. J., exhibits, 135.
- Smyly, Sir Philip Crampton, "In Memoriam," 398.
- Society of Medical Phonographers, 307.
- Special Reports—Progress of Neurology and Psychiatry, by Dr. W. R. Dawson, 50, 295; Rhinology and Laryngology, by S. Horace Law, 299; Public Health, by Sir C. A. Cameron, 373, 444.
- Spencer, Dr. Walter George, Walsham's surgery, *Rev.*, 21.
- Spleen, traumatic rupture of the, Dr. P. N. Gerrard on, 425.
- Splint for talipes equino-varus, Mr. Denis Kennedy on a, 255.
- State Medicine, Section of, in the Royal Academy of Medicine in Ireland, 302.
- Stengel, Dr. Alfred, text-book of pathology, *Rev.*, 219.
- Stenosis, tricuspid, Dr. Ashley Cummins on, 70.
- Stephens, Dr. J. W. W., and Mr. S. R. Christophers, practical study of malaria, *Rev.*, 111.
- Stephenson, Dr. Sydney, Darier's ocular therapeutics, *Rev.*, 32.
- Stevens, Dr. A. A., manual of the practice of medicine, *Rev.*, 291.
- Stevenson, Dr. Edgar and Mr. Edgar Browne, squint in children, *Rev.*, 429.
- Stewart, Netta, gynæcological nursing, *Rev.*, 118.
- Stiles, Dr. Harold J., Kocher's operative surgery, *Rev.*, 35.
- Stimulants, use of, in treatment, Dr. J. Booth on, 461.
- Stöhr, Dr. Philipp, text-book of histology, *Rev.*, 430.
- Stomach diseases, surgical intervention in some, Mr. Maunsell on, 1, 54.
- Stomach, tetany and chronic disease of the, Dr. Bouchier-Hayes on, 272.
- St. Patrick's Anti-treating League, 381.
- Subcutaneous endothelioma, Mr. E. H. Taylor and Dr. O'Sullivan on, 385.
- Surgical intervention in some stomach diseases, Mr. Maunsell on, 1, 54.
- Surgeons of Edinburgh, Royal College of, 64, 355, 460.
- Sweating of the feet, 71.
- Symes, Dr. J. Odery, bacteriology of every-day practice, *Rev.*, 435.
- Symes, Dr. Langford, and Mr. Benson, on orbital tumour, 65; clinical pictures of children's diseases, 165, 262, 349.
- Syphilis, pathogenic agent of, 395.
- "Tabloids," Messrs. Burroughs and Wellcome's new, 80, 240, 397, 470.
- Talipes equino-varus, new retention splint for congenital, Mr. Denis Kennedy on a, 255.
- Taylor, Mr. Edward, on gastric surgery, 63; subcutaneous endothelioma, 385.
- Taylor, Mr. William, cases of intestinal obstruction successfully treated, 321.
- Tendo-Achillis jerk in diabetes mellitus, Dr. R. T. Williamson on, 237.
- Teratoma, Dr. Earl's case of, 306.
- Tetanus, serum treatment of, Dr. D. Morrissy on, 308.
- Tetany and chronic stomach affections, Dr. Bouchier-Hayes on, 272.
- Thayer, Dr. W. S., the late effects of typhoid fever on the heart and vessels, 318.
- Thompson, Dr. J. Ashburton, rats and plague, 449.
- Thomson, Dr. Alexia, Dr. G. A. Gibson and, the Edinburgh Medical Journal, *Rev.*, 131.
- Tobin, Mr. R. F., pathology of senile hypertrophy of the prostate, 304.
- Tourniquets, pneumatic, 395.
- Townsend, Dr. H. R., acute intestinal obstruction, 71; appendicitis, 308.
- Toxic actions of urotropin, 69.
- Transactions of the American Pediatric Society, *Rev.*, 124; American Orthopædic Association, *Rev.*, 125.
- Treves, Sir Frederick, manual of operative surgery, *Rev.*, 356.
- Tribromide "tabloids" effervescent, 240.
- Tricuspid stenosis, Dr. Ashley Cummins on, 70.
- Tubby, Mr. A. H., and Mr. R. Jones, modern methods in the surgery of paralysis, *Rev.*, 46.
- Tuberculosis—intratracheal injections in pulmonary, Dr. T. G. Moorhead on, 15; and its prevention, 180; vaccination against, 428; of the vaginal portion of the cervix, Mr. Alfred J. Smith on, 459.
- Tuberculin in pulmonary tuberculosis, Dr. P. T. O'Sullivan on, 226.
- Tweedy, Dr. E. Hastings, exhibits, 225; sarcoma uteri, 459; recent methods of opening and closing the abdomen, 460.

- Typhoid fever—diagnosis of perforation in, Dr. Parsons on, 98; treatment of, Sir John Moore on, 134; skin lesions after, 158; late effects of, on the heart and vessels, 318.
- Ulcer, warty, of Marjolin, 381.
- University of Dublin — Biological Association, 54; Calendar, *Rev.*, 119, 283.
- University of Ireland, Royal, 456; Calendar, *Rev.*, 439.
- University of Pennsylvania, contributions from the William Pepper Laboratory of Clinical Medicine, *Rev.*, 204.
- Uræmia, 340.
- Urotropin, toxic actions of, 69.
- Uterus, rupture of, 419; sarcoma of, 459.
- Vaccination against tuberculosis, 428.
- Vagina, sarcoma of the, Drs. Jellett and Earl on, 384.
- Veronal tabloids, 470.
- Vincent, Dr. Ralph, nutrition of the infant, *Rev.*, 122.
- Vital statistics, 72, 145, 227, 309, 385, 462.
- Wales, Sanatorium for West, 110.
- Walker, Dr. E. W. Ainley, general pathology of inflammation, *Rev.*, 431.
- Wallace, Dr. J. Sim, essay on the irregularities of the teeth, *Rev.*, 201.
- Walsham, Mr. W. J., surgery, *Rev.*, 21.
- Ward, Mr. Arthur H., clinical studies in syphilis, *Rev.*, 433.
- Waring, Mr. H. J., manual of operative surgery, *Rev.*, 360.
- Warty ulcer of Marjolin, 381.
- Water, lead-polluted, 379.
- Webster, Dr. J. Clarence, text-book of obstetrics, *Rev.*, 24.
- Wells, Dr. Walter A., Dr. Barton and, a Thesaurus of medical words and phrases, *Rev.*, 29.
- Whitaker's Almanack, 1904, *Rev.*, 48; Peerage, 1904, *Rev.*, 48.
- White, Dr. J. William, and Dr. Keen, text-book of surgery, *Rev.*, 438.
- Wigham, Dr. J. T., cancer of breast and ovaries, 69; action of radium on some organisms (with Dr. H. H. Dixon), 161.
- Williams, Mr. W. Roger, vaginal tumours, *Rev.*, 437.
- Williamson, Dr. R. T., the tendo-Achillis jerk in diabetes mellitus, 237.
- Works on—massage, *Rev.*, 115; nursing, *Rev.*, 117; diseases of children, *Rev.*, 120.
- Workhouse reform, 184.
- Wryneck, Dr. J. Cotter on, 461.
- Year-book of medicine and surgery, Saunders', *Rev.*, 371, 442.
- Year-books for 1904, *Rev.*, 48.
- Younger, Dr. E. G., insanity in everyday practice, *Rev.*, 441.

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